New Research in Mental Health

2002-2003 Biennium
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Ohio Department of Mental Health

Bob Taft, Governor
Michael F. Hogan, PhD, Director

Dee Roth, MA, Chief
Office of Program Evaluation and Research
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(Listed alphabetically by university or primary agency)

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INTRODUCTION

Historical Overview

The decade of the 1970s was one of great creativity and change for the Department of Mental Health’s research program. Although there were some setbacks, the overall outcome was forward progress in the development of new knowledge for the mental health system. The very early 1970s saw a continuation of the program of basic research which was developed in the 1960s. Our scientists were studying fatty acid metabolism, the neurobiology of aging in animals, brain lipids, and accumulated minerals and trace elements in the blood.

In Fiscal Year 1973 we took a critical look at our research program and found that it was not addressing the kinds of problems and questions the Department was facing in the present or expected to be facing in the future in our attempts to develop and deliver better services. While our research was concentrated in basic sciences, our questions were of a more immediate and applied nature. During Fiscal Year 1974 we phased out almost all of the basic research program and undertook a priority-setting process to determine those areas needing research through the remainder of the 1970s. Those areas were: community-based services, planning, prevention, geriatrics, children’s services, administration, institution-based services, training, forensic psychiatry and drug abuse.

In Fiscal Year 1975 we launched a major developmental effort to build an applied research program to address questions in these ten priority areas. In this process, we also attempted to stimulate diversity in the types of settings in which Department of Mental Health research projects are conducted, because it is our belief that a multidisciplinary research program, in a variety of settings, will elicit a wider range of theories and approaches applicable to our problems.

The development effort in Fiscal Year 1975 was successful. By the close of that year research projects had been commissioned in eight of the ten priority areas, and we had achieved substantial progress in developing research in diversified settings. In addition to our Research Center in Cleveland, projects were being conducted under the sponsorship of seven of our institutions, three universities, eleven local community mental health boards and agencies, plus Central Office. Inquiry was in progress in such areas as the effects of Ritalin on hyperactive children, new techniques to correct learning disabilities, the prediction of dangerousness, the effects of the physical environment on hospitalized patients, and the interface between institutional and community mental health services. Procedures of proposal review were instituted by the Office of Program Evaluation and Research which insured a high level of quality in each research project funded. Findings were beginning to be reported which not only impacted our own services, but also achieved recognition in a number of national journals.

The 1976-1977 Biennium saw much of the forward momentum of the developing program in applied research halted. Competing pressures for scarce resources resulted in a focus on immediate service needs and a corresponding decline in emphasis on strategies which would yield knowledge for the future. The research budget was cut by more than 55 percent. Many projects were halted in progress, and others were terminated before they began. In contrast to the single Fiscal Year 1975, when 33 pieces of research were in progress in eight of our priority areas, the two-year period of the 1976-1977 Biennium found only 24 projects in operation, covering six areas.

In contrast to the bleak outlook of the previous biennium, Fiscal Year 1978 saw a revitalization of the research program. A substantial amount of the cut budget was restored, and efforts were renewed to develop research projects which could make a significant contribution to the knowledge base of the
mental health system. As a result, Fiscal Year 1978 found 38 projects in progress in our Research Center, four of our institutions, seven universities, Central Office, one private research organization, and five community agencies and boards. The projects covered seven of our ten priority areas and focused on such topics as organizational analysis of our institutions, programs to rehabilitate individuals with drug problems, factors affecting psychiatric admissions to inpatient services, and the mental health effects of mass tragedy and mass unemployment.

In Fiscal Year 1979 the forward momentum of the Department’s research program continued. During that year, 48 projects were in operation, in nine out of ten priority areas. The diversification of project settings was increased, and projects were being conducted in our Research Center, eight universities, six of our institutions, Central Office, two private research organizations, seven community agencies and boards, and a metropolitan hospital. Fiscal Year 1979 projects covered a wide range of topic areas, including the variables associated with successful transition of released patients back into the community, the effects of various types of hospital organizational structure on staff and patient outcomes, and the development of instrumentation to measure more effectively the treatment progress of community aftercare clients.

During the last few months of Fiscal Year 1979, we began to look ahead and assess the needs for research in the 1980s. The Office of Program Evaluation and Research conducted a statewide needs assessment, including a series of interviews with key individuals within the mental health system throughout the state, to determine those topical areas where applied research could be most beneficial to the Department’s efforts. This survey resulted in the identification of fourteen areas which were consistently seen as having major significance for the improvement of mental health care over the next ten years. The fourteen areas were designated as our priorities in the search for new knowledge in the decade of the 1980s. An additional area--biological and nutritional research--was added by the General Assembly in its budget deliberations, and these fifteen priorities guided the research program during the 1980-1981 Biennium:

1. The “revolving door” phenomenon
2. New treatment modalities
3. The effects of legislation on the mental health system
4. Community attitudes and citizen involvement in mental health
5. The interaction between mental health and other human service areas
6. Prevention
7. Clients with the dual diagnosis of mental illness and mental retardation
8. Psychotropic drugs
9. Treatment needs of special populations such as aggressive, violent or suicidal clients or long-term institutionalized patients
10. Treatment needs of emotionally disturbed children
11. Treatment needs of the geriatric client
12. Drug abuse
13. Mental health manpower and manpower development
14. Mental health system studies and the development of treatment evaluation instruments
15. Biological and nutritional research

Although it suffered from the state’s fiscal crisis in the last half of Fiscal Year 1981, as did the overall mental health system, the research program was very active in the 1980-1981 Biennium and produced a substantial number of achievements. Sixty-seven projects were in operation in twelve universities, eight community agencies or boards, four of our hospitals, Central Office, three general hospitals, three private research organizations, and the Research Center.
A number of the major projects were studying the transition of clients from hospital to community settings. Through the funding of several pieces of research concentrating on different aspects of this issue, we put in place a mechanism to yield new knowledge about how the service system was working and where it could be improved. In the 1980-1981 Biennium the research program received national recognition from the American Psychiatric Association for the work of the Architecture/Research/Construction Group in the development and testing of therapeutic physical environments for both hospital and community treatment settings.

After more than two decades of significant achievements, the research program was largely destroyed in the 1982-1983 Biennium. The overall state budget for 1982-1983 was developed at a time of severe fiscal crisis in Ohio. A number of agencies received substantial cuts in their requested allocations, including the Department of Mental Health, however research was the Department’s only program singled out by the Office of Budget and Management for total elimination. Hence, the Mental Health budget was sent to the General Assembly with no allocation for research, and there followed an arduous six-month battle to get the program reinstated. In the end, the immediate battle was won but the long-term war was lost. We were successful in reinstating a budget for research, but it was a cut of 78 percent from the 1980-1981 program level.

Fiscal Year 1982 saw only the designated ongoing projects in operation. During Fiscal Year 1983, the completion of some of those allowed a few new projects to begin, primarily dissertation research in the Small Grants Program. In total during the 1982-1983 Biennium, twenty-one projects were funded in three universities, four community service or planning agencies, three general hospitals and two private research organizations. The Research Center was closed.

Highlights of the 1982-1983 Biennium were projects on the involvement of clients in the design and implementation of program evaluation in a mental health agency, the impact of different models of case management on treatment outcomes, the tracking of a cohort of 550 individuals released from two acute psychiatric hospitals into the community mental health system as well as the larger social service system, and the rights of patients to participate in decisions about the use of psychotropic medications in their treatment.

In 1983, our Architecture/Research/Construction Group was again honored for its work on the development and testing of therapeutic physical environments. This time they won a Progressive Architecture Award, the top national honor in the field of architecture. It is an extraordinary achievement for a single research effort to win national acclaim in two different fields of endeavor, and we feel fortunate to have been able to fund the group’s work for over a decade.

Research funds were even more limited in the 1984-1985 Biennium. Twenty-four projects were funded under the Regular Research Grants Program and seven were funded under the Small Grants Program for dissertation research. These projects were operating in seven different universities, seven community service or planning agencies, two general hospitals and one private research organization. Two major dissemination efforts occurred in this biennium, involving the Client Oriented Program Evaluation group’s successful development of a reliable and valid treatment outcome instrument based on clients’ feelings, and findings from research on case management and its impact on client outcomes.

Despite our very active efforts to reinstate some of the budget cuts of previous years, allocations for research in the 1986-1987 Biennium were held by the General Assembly at 1984-1985 levels. Twenty-four projects were funded in five different universities, six community agencies, three private research organizations, and the Office of Program Evaluation and Research. Researchers studied the Department’s Informed Consent Policy being tested at two state hospitals, individuals who sought services at a psychiatric emergency room but who were not admitted for inpatient care, the phenomenon...
of postpartum depression, interorganizational networks in the mental health service delivery system, and the formal and informal networks of family members of mentally ill individuals and their use of mental health services.

In the 1988-1989 Biennium, despite continued very active efforts to reinstate part of the Department’s research budget, the General Assembly again held the research line item at 1984-1985 levels. This erosion of real dollars limited both the size and scope of projects we could fund. Twenty projects were funded in seven different universities, five community agencies and boards, one private research organization, and the Office of Program Evaluation and Research. Work continued on assessing the impact of the Department’s Informed Consent Policy for the administration of medications, as the policy was implemented in all our hospitals. Studies were also in progress concerning severely emotionally disturbed children and adolescents, the impact of several facets of housing, and the extent of family burden for different types of caregivers.

Early in 1989, the Department began an extensive planning process for developing research to assess the impact of the Mental Health Act of 1988—the omnibus legislation that mandated extensive changes in Ohio’s mental health system. As a first step in that process, Office of Program Evaluation and Research staff conducted focus group sessions with representatives of 16 different constituency groups about framing the most important questions needing to be researched. Feedback came from consumers, family members, community mental health board staff, judges, county commissioners, advocates, legislators, labor unions, community mental health agency staff, community representatives, hospital CEOs and various professional organizations. In addition, a group of national leaders added their input about what questions individuals outside Ohio were asking about the impact of changes taking place in our mental health system.

Areas of research seen as most important by the various constituency groups were: the organization and structure of the mental health system; outcomes for clients; the role and function of hospitals and state-operated services; the impact upon staff, costs, families and special population groups; and the impact of community commitment, particularly on clients’ rights. These areas of research were established and promulgated as the Department’s research agenda for the decade of the 1990s.

In light of the importance of assessing the impact of the Mental Health Act of 1988 on the lives of Ohio consumers of mental health services, the Department made research a top budget priority for the 1990-1991 Biennium. Efforts to restore some of the budget were finally successful, and this infusion of new funds allowed an increase in the number of projects and in the diversity of topics being addressed by researchers. In the 1990-1991 Biennium, 30 projects were funded in 12 different universities, five community agencies or boards, one state hospital, one private research organization, and the Office of Program Evaluation and Research.

Researchers were studying the impact of housing programs and the comparative costs of providing mental health services and housing in the community vs. hospital settings, enhancing social networks of mental health consumers, the transition of severely emotionally disturbed youth to adulthood, the process of case management in community treatment teams, and the impact of a community support system for persons with long-term hospitalization.

This biennium the Office of Program Evaluation and Research received a grant from the National Institute of Mental Health for a four-year study “Services in Systems: Impact on Client Outcomes.” The research was designed to ascertain the service mixes being delivered to Ohio’s severely mentally disabled population; the extent to which the characteristics of clients, systems, and community environments were associated with these service mixes; how the service mixes were related to outcomes in clients’ lives and how all of these relationships changed over time. Since it was a longitudinal study, it enabled us to
evaluate changes in the mental health system and client outcomes over a longer period of time than that studied by most of the prior research in the field.

The 1992-1993 Biennium saw a very active research program, with 33 projects funded in 12 universities; 10 community agencies, boards or hospitals; one private research organization, and the Office of Program Evaluation and Research. Projects were underway addressing important aspects of the impact of the Mental Health Act of 1988, including research on community mental health/ADAMHS board responses, and an in-depth study of persons involuntarily committed to boards, the services they received, and the outcomes they experienced, from their own perspectives and those of their families. A number of projects were focusing on population groups with distinctive mental health problems or needs, including African-American clients, elderly nursing home residents, mentally ill individuals involved in the criminal justice system, and children and adolescents.

During the 1994-1995 Biennium, we funded 43 projects—a very healthy increase! Sixteen were master’s theses or doctoral dissertations, funded under our Small Grants Program for graduate student research. Research projects were funded to 14 different universities, six community agencies, boards or hospitals, one private research organization, and the Office of Program Evaluation and Research.

We had a particular focus on knowledge dissemination, since a number of projects were completed in this biennium. Research Results Briefing 1994: Knowledge for a New Era of Mental Health attracted over 300 people for a two-day symposium in which results from 23 different projects were presented. Our NIMH “Services in Systems” study was completed during this biennium and was featured at Research Results Briefing 1994 as well as in a number of national conference venues, including the National Conference on Sate Mental Health Agency Services Research and Program Evaluation, APHA and IAPRSRS. The study provided so much valuable information and so many interesting new questions that we decided to extend and reconfigure it as part of our own research program, under the title “A Longitudinal Study of Mental Health Services and Consumer Outcomes in a Changing System.”

During the 1996-1997 Biennium, we funded 29 projects. Eight were funded under our Small Grants Program. Research projects were funded to 10 different universities, two community agencies or mental health boards, one private research organization, and the Office of Program Evaluation and Research.

A major focus of this biennium’s research program was recovery from serious mental illness, and ways in which recovery can be enhanced. The Department’s Office of Consumer Services funded four demonstration projects, and our office funded universities to develop research around the projects’ interventions. We are particularly pleased that, in all four instances, the research became a genuine collaboration between consumers and university staff. There were also a number of projects which focused on a wide range of topics concerning family members of adults with mental illness or children with emotional disturbances, indicating our commitment to family members as an important source of support in consumers’ lives and to developing knowledge that will improve services for families as well as consumers.

During the 1998-1999 Biennium, we funded 37 projects. Eleven of those were funded under our Small Grants Program. Research projects were funded to 12 universities two community agencies, two private research organizations and the Office of Program Evaluation and Research. At the beginning of the biennium we held Research Results Briefing 1997: Knowledge for Services and Systems in an Era of Change, our triennial two-day symposium in which the results of our research programs are presented to the Ohio mental health system.
Our research portfolio for 1998-1999 reflected our commitment to understanding the characteristics and needs of consumers and families, particularly adults with severe mental illnesses and children with serious emotional disturbances, and to determining the services that work effectively to help people recover.

During the 2000-2001 Biennium, we funded 34 projects, 11 of which were funded under our Small Grants Program. Research projects were funded to 13 universities, three community agencies or boards, two private research organizations and the Office of Program Evaluation and Research.

In this biennium, the Department’s Office of Consumer Services funded a group of eight demonstration projects designed to embed the principles of Recovery into board and agency operations in local mental health systems. Our office funded research to ascertain the impact of these interventions in seven of the demonstrations. The research portfolio this biennium also began to address the Department’s Quality Agenda, which is seeking to improve the quality of mental health services in Ohio through 1) increasing the use of evidence-based practices, 2) shifting from a quality assurance approach to a continuous quality improvement approach, and 3) consistently measuring consumer outcomes.

It has been clear for some time that having research which proves that a new treatment modality is effective is not a sufficient motivation for organizations to adopt it. Other complex factors come into play, and the new Innovation Diffusion and Adoption Research Project (IDARP) was beginning to look at those factors.

The 2003 - 2004 Biennium

During the 2002-2003 Biennium, we funded 35 projects, nine of which were funded under our Small Grants Program. Research projects were funded to 10 universities, three community agencies or boards, two private research organizations, and the Office of Program Evaluation and Research.

In this biennium, we continued our focus on evidence-based practices that would provide more effective treatments within the mental health system and in other venues where people with mental illness find themselves. Researchers from Applewood Centers, Decision Support Services, Kent State University, Ohio University, Ohio State University, Synthesis, the University of Toledo and Wright State University were studying various evidence-based practices and promising practices, in order to strengthen their evidence base. At the same time, researchers at Case Western Reserve University, the Columbiana Mental Health and Recovery Services Board, Kenyon College, Ohio Wesleyan University, the University of Cincinnati and Youngstown State University finished their research around local systems’ attempts to embed the principles of recovery into board and agency operations. The latter set of projects had mixed results, but one overall conclusion was that it is more difficult to establish an innovative approach such as Recovery within an organization than it is to have an individual consumer experience benefit from a Recovery-oriented project or service.

Our Innovation Diffusion and Adoption Research Project (IDARP), which is being conducted jointly by Decision Support Services and the Office of Program Evaluation and Research, has been studying that very issue. We have been focusing on two broad research questions: 1) What factors and processes influence the adoption of innovations by behavioral healthcare provider organizations? and 2) What factors and processes contribute to the longer-term assimilation and impacts of innovations by adopting organizations? The findings are giving us a great deal of insight about the arduous task of adopting and sustaining an evidence-based practice within an organization, and it is our hope that the information will be useful at a number of levels within the mental health system to assist agencies to adopt these practices and to improve the quality and effectiveness of services for consumers.
This volume of New Research in Mental Health contains abstracts of each of the projects funded by the Department’s research program which were in progress during the 2002-2003 Biennium (Chapter One) as well as projects in progress funded by federal and other sources (Chapter Two). The abstracts were written by the researchers, and they represent varying perspectives as well as varying stages of project progress. It is my hope that some of these projects are addressing problems and concerns you in the mental health system are experiencing, and that the results of the research will give you new ideas and assistance in improving the quality and effectiveness of services. Please feel free to contact the researchers or me for further information or to discuss any questions you may have. An appendix at the end of this book gives locating information for all principal investigators.

We in the Department of Mental Health believe that research is a valuable and a necessary tool in the task of enhancing the quality and effectiveness of the mental health system. By bringing the rigor of good research methodology to bear on the kinds of pressing problems and issues facing us, we can develop new strategies and techniques, move toward best practices in the public mental health system, and achieve a better understanding of the needs of those we serve.

It is one of the functions of the Office of Program Evaluation and Research to develop linkages between problems and questions within the mental health system which need research, and universities and other resources capable of developing research projects which will provide answers. To this end, we are actively engaged in an ongoing process to encourage researchers in settings throughout Ohio to apply their talents and expertise to the many priority questions which remain unsolved in all of the areas of public mental health. I would like to hear from any researchers who wish to explore these challenges with us.

I hope that you will find this book both interesting and challenging and that we can work together to integrate the results of our research into the ongoing operation of mental health programs, in order that the citizens of Ohio will receive higher quality and more effective services.

Dee Roth, MA
Chief
Office of Program Evaluation and Research
March 2005
Chapter One
ODMH - Funded Research
A COMPARISON OF THE EFFECTIVENESS OF MANUALIZED AND NATURALLY OCCURRING THERAPY FOR CHILDREN WITH DISRUPTIVE BEHAVIOR DISORDERS

Applewood Centers, Inc.

Jeremy P. Shapiro, PhD Jen K. Youngstrom, PhD

Currently, one of the most basic controversies in the mental health field concerns the utility of treatment outcome research, in its traditional form, for guiding everyday therapeutic practice. The usual term for this controversy is the “efficacy versus effectiveness debate” (Fishman, 2000). The methodological question is the degree of similarity between therapy as operationalized in research studies and therapy as practiced in the “real world” of clinics and offices. The practical question is to what extent therapists should plan their interventions for clients on the basis of outcome studies, versus the basis of “clinical judgment.” This controversy cross-cuts diagnostic groups and specific interventions, reaching to the heart of most of treatment planning and decision-making.

The traditional method of therapy outcome research has been the clinical trial design, in which two or more subdivisions of a diagnostically homogeneous sample are treated with tightly defined, manualized therapeutic regimens, and change in client functioning from pretest to posttest is measured. Concerns about the clinical trial design center on the issue of external or ecological validity (Cronbach, 1982; Fishman, 2000; Seligman, 1996; Weisz, Weiss, & Donenberg, 1992). These writers have argued that neither the clients nor the interventions studied in efficacy research accurately represent psychotherapy as it is practiced in the “real world.” The purpose of this study is to examine empirically the applicability of traditional outcome research to clinical practice and to produce research findings from within a community clinic about the comparative effectiveness of different therapeutic techniques for children with disruptive behavior disorders.

This study is also addressing an additional, supplementary issue. The Ohio Youth Problems, Functioning, and Satisfaction Scales (Ohio Scales; Ogles, Melendez, Davis, & Lunnen, 1999) have accumulated substantial validation as measures of behavioral and emotional problems and level of mental health functioning in children. However, there is currently no information about the sensitivity of these scales to treatment-associated change in problem and functioning levels. The issue of sensitivity to change is of concern both to providers choosing measures for program evaluation purposes and to administrators, researchers and consumers who interpret outcomes data. This study will produce such information by comparing change data from the Ohio Scales to change data from older measures that have accumulated more empirical information.

Goals of the Study

The proposed study has two types of goals. One purpose is abstract, general and methodological: we are developing and using a new procedure for measuring naturally occurring child therapy techniques, so that their effectiveness can be directly compared. The goal here is to advance the methodology of mental health research by developing procedures to help fill a gap that is widely considered important. Our second purpose is specific, concrete, and clinical: we will obtain information about the effectiveness of various therapeutic techniques for children with disruptive behavior disorders. The combination of these two types of goals is integral to our study, because production of ecologically valid information about treatment of disruptive behavior disorders requires rigorous research about naturally occurring
The general issue of the applicability of traditional outcome research to everyday community practice unpacks into several research questions:

1) When manualized treatments are “transported” from research laboratories to community clinics, is their effectiveness maintained?
2) What is the comparative effectiveness of the manualized treatments studied in outcome research and the therapies routinely provided by community practitioners?

We will address the first question by comparing results obtained with an empirically validated, manualized treatment for disruptive behavior disorders (Forehand & McMahon, 1981) in our agency to results produced by this intervention in past studies in research settings. We will address the second question by comparing, in our clinic, the results produced by the manualized treatment and by naturally occurring therapy.

The outcome literature provides little information about the effectiveness of therapeutic techniques when they are divorced from theoretically unified, pre-set packages and combined with strategies drawn from a variety of theoretical sources—even though this is how treatment is generally conducted. Applewood Centers has conducted one naturalistic study that did examine discrete intervention techniques (Shapiro, Welker, & Jacobson, 1997), and we are building on this past work to address the question:

3) What are the associations between use of various therapeutic techniques and treatment outcomes in community settings?

Our study has seven specific objectives, corresponding to the acquisition of seven types of empirical information:

1) We will measure the fidelity of implementation of Forehand and McMahon’s (1981) manualized intervention for children with disruptive behavior disorders.
2) We will compare the outcomes of our clients receiving the manualized treatment to outcomes reported in the literature for children treated in research studies.
3) We will develop and use a method for measuring implementation of naturally occurring treatment in terms of specific therapeutic techniques, using therapist report on a structured instrument validated by blind codings of audiotapes of sessions.
4) We will compare levels of treatment utilization versus dropout associated with manualized and naturally occurring therapy.
5) We will compare the outcomes produced by manualized and naturally occurring therapy, using several measures of treatment effectiveness.
6) Within the naturally occurring treatment condition, we will investigate associations between use of different therapeutic techniques and dropout rates, treatment outcome, and parent satisfaction.
7) We will compare data on treatment progress from the Ohio Scales and several other measures in order to assess the comparative sensitivity to treatment-associated change of these instruments.

Methodology

This study is using a hybrid research design, combining aspects of traditional experimental methodology with a naturalistic approach. Specifically, our design combines functionally random group assignment to treatment conditions with detailed measurement of the variety of therapeutic techniques
used by clinicians when they are not constrained by research requirements. Thus, our investigation of the independent variable of psychotherapeutic technique combines experimental control and unobtrusive measurement in an innovative synthesis.

The sample will include 240 children, aged three through nine years old, with a diagnosis of Oppositional-defiant Disorder, Adjustment Disorder with Disturbance of Conduct, or Disruptive Behavior Disorder Not Otherwise Specified. Children with co-occurring diagnoses are not excluded from the sample, because this would reduce the generalizability of our results; secondary diagnoses will be examined in the data analyses. Similarly, use of medication will not be a criterion of exclusion but will be a variable of interest. The child clients will be approximately 65 percent male and 35 percent female, with ethnic groups approximately 60 percent African American, 30 percent Caucasian, and 10 percent other ethnic group.

Our procedure has two basic parts. First, we are measuring naturally occurring therapeutic techniques, using a method described below, in a sample of 160 child clients. Within this sub-sample, we will examine correlations between use of different techniques and treatment outcome. Second, we will provide a group of 80 children with Forehand and McMahon’s manualized treatment, and we will compare their outcomes to those of the group receiving treatment as practiced by agency clinicians under non-research conditions.

The more complex and innovative of these two aspects of the investigation is the measurement of naturally occurring therapy. While a number of therapeutic processes have been measured in past studies, our goal is to describe and assess the full range of commonly used counseling strategies; to the best of our knowledge, this has not been done before.

We constructed a coding system that identifies 29 therapeutic strategies (e.g., several types of behavior therapy, narrative and solution-oriented therapy, and psychoeducation). Treatment modality (e.g., individual child, parent counseling, family) and activity (e.g., pure talking, symbolic play, sandtray) are also assessed by this system. Research staff listen to audiotapes of therapy sessions and code the sessions on this basis. We rank order the scoring categories according to their extent of use. The scoring system is presented in an Appendix at the end of this abstract.

In the first, naturalistic part of the study, treatment is practiced exactly as before the investigation began, and the research consists solely of measurement. In the second part of the study, the investigation will have an impact on services provided to clients. Agency clinicians will be trained in Forehand and McMahon’s (1981) manualized treatment, and they will provide this intervention to their next 80 clients. This intervention has received strong support in laboratory studies (e.g., Wells & Egan, 1988), and we will ascertain its performance in a community mental health setting. The intervention consists of behaviorally oriented parent training in effective child management techniques and strategies for improving the parent-child relationship and child compliance with adult directives.

The dependent variables of therapy outcome and quality are assessed by means of five instruments: (1) The Ohio Scales (Ogles et al., 1999) are new measures of child mental health functioning with extensive evidence of reliability and validity. Both the parent-report and therapist-report versions of the instrument are administered. (The youth self-report version is not used because our client sample is below the age-range of this instrument.) (2) The Child Behavior Checklist (Achenbach, 1991) is a well-validated, broad measure of child behavior problems and social competence that is completed by the parent. (3) The Parent Satisfaction Questionnaire (Kotsopoulos, Elwood, & Oke, 1989) measures parents’ satisfaction with the mental health treatment their child has received. (4) The Goal Attainment Scale procedure (Kiresuk, Smith, & Cardillo, 1994) assesses consumers’ attainment of their own, self-defined goals for treatment by applying a standard metric to this idiographic information. (5) The DSM-
IV Global Assessment of Functioning Scale (GAF; American Psychiatric Association, 1994) uses a standard metric to quantify therapist judgments of the client's adaptive functioning.

**Preliminary Results: Impressions of Naturally Occurring Therapy**

Project staff have listened to audiotapes of hundreds of child therapy sessions as they occur, without research constraints, in the community mental health center in which the study is being conducted. While analyses will not occur until data collection is complete, some overall impressions have emerged from our observations. These impressions are global; they pertain to the general nature of the therapeutic interventions we have observed through the medium of audiotapes.

Although differences between therapists are substantial, our most striking impression is that naturally occurring therapy is usually quite different from the interventions studied in the outcome studies that dominate the literature on treatment. Empirically supported interventions emphasize **specific techniques** such as behavior reinforcement charts, disputing irrational beliefs, teaching social skills, and so forth. Techniques of this type are certainly represented in the sessions we have taped, but they comprise a small percentage of session time.

Even before the data are analyzed, it is apparent that the coding called **Inquiry** accounts for more session time than any other category. **Inquiry** consists of therapist questions and parent and child answers concerning the child’s functioning, usually during the time since the previous session, and usually focused on behaviors related to the presenting problems. In a moment-to-moment way, much session time is spent on descriptions of incidents and interactions related to the child’s disruptive behavior problems. The activity coded as **Inquiry** predominates during assessment, and it also comprises a good deal of the activity during therapy.

When therapists intervene, their input usually (although not always) differs from the type of talk associated with use of well-defined, research-based techniques. Our coding system includes several categories designed to capture therapist statements of this type, which occur frequently. **Life Education** is coded when clinicians provide children with simple explanations of how life works in terms of predictable consequences, values, and factual information. **Suggestion**, which has **Mental** and **Behavioral** subtypes, is coded for therapist directives that are not part of a more systematic intervention such as behavior therapy. **Relationship Building** is coded for session time that does not focus on the presenting problems but that involves play or talk about pleasant topics that seems to have the purpose of building rapport.

Comparatively technical categories, such as those for subtypes of behavior and cognitive therapy, are also sometimes scored, but the treatment activities so designated are still somewhat different from the procedures described in treatment manuals or texts on these therapeutic approaches. For example, therapists sometimes discuss use of positive reinforcement and time-out, but they rarely provide the type of systematic, step-by-step training in behavior child management practices that is delineated in treatment manuals.

These impressions support the original rationale of our study by illustrating pronounced differences between the type of therapy studied in typical outcome research and the type that occurs in everyday clinical practice in the community. Whether the relatively non-technical therapeutic activities we are discovering are more or less effective than those examined in previous outcome research is an empirical question that we look forward to addressing when we analyze our data.

**Applicability**
The investigation will produce results of both general and specific applicability. In other words, this research will produce both abstract, widely applicable knowledge and concrete, directly useful information.

Most broadly, we aim to advance the methodology of psychotherapy research and to produce empirical information bearing on the general question of the utility of traditional outcome research for guiding everyday clinical practice. Several forms of information will bear on this question. First, comparison of the outcomes achieved by Forehand and McMahon’s protocol in our clinic and in past research settings will address the question of the “transportability” of this intervention. Second, comparison of outcomes from our manualized and naturally occurring treatment conditions will suggest whether Forehand and McMahon’s intervention is more or less effective than routine clinical practice; such practice, as a comparison treatment, is more clinically substantial than those typically used in past outcome studies. Third, analyses within the naturally occurring treatment condition will indicate how the behavioral techniques comprising Forehand and McMahon’s intervention perform when they are divorced from a pre-set package and combined with other techniques, as typically occurs in the eclectic interventions provided in the community.

Mental health researchers need to strike a balance between accommodation to the realities of real-world practice and maintenance of the methodological rigor necessary for producing valid results. Our procedure represents an attempt to achieve this balance which, if successful, would be replicable.

REFERENCES


**Paper Presentations of the Research to Date**

### Appendix

**Psychotherapy Coding System**

#### Modality

- ___ Individual ___ Parent ___ Parent-child ___ Family

#### Activity

- ___ Art ___ Homework ___ Reading
- ___ Bibliotherapy ___ Paperwork ___ Sandtray
- ___ Games, regular ___ Play, Non-symbolic ___ Skill practice
- ___ Games, therapeutic ___ Play, Symbolic ___ Workbooks/sheets
- ___ Writing ___ Pure Conversation

#### Technique

**Parent**

- ___ Behavioral training ___ Case management ___ Counseling ___ Guidance
- ___ Inquiry ___ Problem Solving ___ Psychoeducation

**Child and Family**\(^a\)

- ___ BT: Exposure ___ Narrative ___ Solution-oriented
- ___ BT: Operant ___ Other ___ Suggestion: Behavioral
- ___ BT: Physiological ___ Problem Solving ___ Suggestion: Mental
- ___ CT: Conceptual ___ Psychodynamic ___ Supportive
- ___ CT: Scripted ___ Psychoeducation ___ ST: Directive
- ___ Emotional Exploration ___ Relationship building ___ ST: Non-directive
- ___ Inquiry ___ Social Skills Training ___ Therapist self-disclosure
- ___ Life Education

\(^a\)BT = Behavior Therapy \ CT = Cognitive Therapy \ ST = Systems-oriented Therapy
EXPECTATIONS FOR A NORMAL LIFE:
YOUNG ADULTS AND THEIR PARENTS COPING WITH SERIOUS MENTAL ILLNESS

Bowling Green State University
Department of Psychology

Catherine H. Stein, PhD

Conceptual Overview

Serious mental illness remains among the most personally devastating and costly health problems in the United States. Severe and persistent mental illness, such as schizophrenia, bipolar disorder, depression, and others, is thought to affect about 2.6 percent of adults in the United States, with schizophrenia alone affecting some 2.9 million citizens. Recent studies indicate that the costs of providing formal care for people with severe and persistent mental illness in the United States are in the billions of dollars, with estimates in the range of $65 billion in 1991.

In personal terms, mental illness can dramatically alter the life paths of adults and families. Mental illness can prevent individuals from achieving or maintaining valued adult roles such as that of husband or wife, parent, employee, or friend. Although new medications help to significantly reduce symptoms associated with mental illness, it is increasingly obvious that symptom reduction does not necessarily lead to community integration for a majority of adults. Often parents must resume taking care of their ill adult child and must deal with their own disappointment, personal distress and uncertainty about the future. Clearly, serious mental illness disrupts the lives of both individuals and families.

In terms of research, however, the views of adults with serious mental illness and their family members are rarely represented in the same study. Separate research traditions have largely prevented researchers from studying the ways that adults and family members come to understand and address changes in daily activities, expectations, and life goals that generally result from mental illness. Existing studies of families coping with serious mental illness typically focus exclusively on the experiences of family members, such as parents or well siblings, or examine family interaction styles that relate to the ill family members’ psychiatric symptoms or treatment outcomes. Failing to include family members with mental illness in family studies has often resulted in the portrayal of people with serious mental illness as sources of family burden and disruption, unable to meaningfully contribute to family life.

Family research that includes the perspectives of both adults coping with mental illness and their family members acknowledges the multiple interpretations of events and experiences that are part of family life. A multiple-perspectives research design recognizes adults with serious mental illness as family members and can tell a research story that is sensitive to family strengths and interconnectedness. This type of research can examine areas of similarity and difference in coping with serious mental illness within families and between adults and family members. Moreover, a multiple-perspectives research design can increase researchers’ sensitivity to context, helping to describe how families make meaning of their shared life circumstances and how they respond to various personal and social forces in coping with serious mental illness.

The present research project uses a multiple-perspectives research design to examine ways that young adults and their parents cope with serious mental illness. The research is guided by a life course perspective that assumes that adults coping with mental illness generally share the expectations, hopes and goals of the larger society. Mental illness is viewed as a traumatic life event that dramatically alters
the life paths of adults and families. A life course approach does not focus exclusively on individual deficits, but considers how adults and their families cope with disruptions in life stage activities and the timing of critical social transitions caused by the illness.

Research indicates that individuals are aware of the timing of life transitions and make judgments as to whether or not they are “on time” or “off-time” with respect to accomplishing major social roles. The timing and duration of social role transitions are reflected in the “paths” or life course trajectories of individuals over time. A qualitative study by Stein and Wemmerus (2001) suggests that what researchers call “social off-timeness” and “life course trajectories,” adults with serious mental illness and their families describe as the “loss of a normal life.” Regardless of the age of illness onset, or number of years since diagnosis, adults and their families described the loss of a normal life as one of the most troubling aspects of coping with serious mental illness.

Present Research

In the present research project, life course issues as they relate to coping with serious mental illness in early adulthood are examined. The lack of existing research in the area that focuses on this life stage is surprising, given the important social transitions that occur during young adulthood. The present two year, longitudinal study focuses on adults between 18 and 30 years of age who have been diagnosed with a form of schizophrenia or bipolar disorder and their parents. At the heart of the research is an examination of the personal expectations, social relationships, social roles, feelings of loss, feelings of personal growth, psychiatric symptoms, and personal well-being reported by adults with serious mental illness and their parents. The research project describes life course disruptions that result from mental illness, similarities and differences in perceptions of adults and parents, and changes in individual and family perceptions of life course issues over time.

The design of the research allows for the examination of family perspectives in coping with serious mental illness as well as young adult and parent perspectives considered separately. Data from the research project have been examined using both cross-sectional and longitudinal analysis. Results of the research project have been grouped into five general content areas: 1) the assessment and examination of social roles; 2) the assessment and examination of social networks; 3) the assessment and examination of personal loss due to mental illness; 3) the examination of personal strivings and hopes and 4) the examination of religion in coping with serious mental illness in the lives of young adults and their parents. For practical reasons, each content area is considered a “study” with its own set of research questions, data analysis procedures, results and conclusions.

In the interests of space, this report will focus on the results of one of the family studies from the research project that describes the strivings and hopes of young adults with serious mental illness and their parents. Results of other family studies examining the role of social networks, personal loss due to mental illness, social roles, or religious coping in the lives of young adults and their parents conducted as part of this research project can be obtained from the author.

Sample Recruitment

To participate in the research,
- adults needed to be between the ages of 18 and 30 years old
- have a diagnosis of schizophrenia or bi-polar disorder
- be receiving mental health services in Northwest Ohio

Research participation rate was approximately 86 percent.
Procedure

Participants were asked to complete individual, semi-structured interviews lasting two to three hours conducted in participants’ homes or other community locations. Participants were

- asked to share their views of decline due to mental illness, hospitalization experiences, expectations, hopes, feelings of personal loss, views of social relationships, perceptions of symptoms, psychological well-being, and aspects of personal growth
- interviewed one year later on the same topics to assess current perceptions and changes over a one year period
- each received $30 for completing first interview and $40 for second interview as a token of appreciation

Sample Characteristics

Family Sample
- 60 young adults and parents from 30 families

Young Adults
- 18 men, 12 women
- 80 percent Caucasian, 20 percent African American
- Average of 24 years old ($SD = 2.75$)
- 83 percent never married
- 47 percent living with parents/other family
- 63 percent not employed
- 53 percent diagnosis of schizophrenia
- 47 percent some higher education or college degree
- Annual income about $8,000
- 34 percent less than $4,800 per year
- Average of five psychiatric hospitalizations ($SD = 6.5$)
- 53 percent hospitalized at least once in the past year

Parents
- 28 mothers, 2 fathers
- 80 percent Caucasian, 20 percent African American
- Average of 50 years old ($SD = 6.4$)
- 50 percent currently married or remarried
- Average of 3.3 children ($SD = 1.4$)
- 60 percent employed full time
- 60 percent some higher education or degree
- 60 percent annual income of $50,000 or less
- 77 percent reported other family members as having serious mental health problems
- 23 percent currently using mental health services themselves
- 33 percent ever used mental health services

Personal Strivings and Parental Goals of Families Coping with Mental Illness

When asked what makes for a meaningful life, research indicates that people often discuss their personal goals, hopes, and dreams for the future. Studies suggest that defining personal goals and striving to achieve them helps individuals to construe life as having purpose and is associated with psychological
well-being and life satisfaction. Moreover, research indicates that parents have expectations, hopes, and dreams for their children before or soon after birth. Parents report that they derive meaning and satisfaction from their children’s accomplishments. Frequently, parents report that their child’s success and happiness is more important than their own.

In recent years, there has been a growing recognition of the importance of expectations, hopes and personal goals among people coping with serious mental illness. Recovery models emphasize the consumer’s goals in effective treatment planning and researchers are starting to examine role of hope in surviving and treating mental illness. Yet, we have a limited understanding of how young adults with serious mental illness view their future or articulate personal goals. To date, little is known about parental hopes for adult children with mental illness and there has been no consideration of potential ties between adults’ personal strivings and the hopes of their parents.

**Study Questions**

The present descriptive study addresses the following research questions:

- How do young adults with serious mental illness describe their personal strivings?
- How do parents describe their hopes for their adult children?
- What kinds of attributions do adults and parents give to their personal strivings and hopes?
- How similar are adults’ personal strivings and parents’ hopes for their children

**Measuring Personal Strivings and Parental Hopes**

The study adapted methods for assessing personal strivings and parental hopes developed by Emmons (1986). In the present research:

- Adults generated a list of up to 10 “things you are trying to do, the things that you are striving for in your everyday life”
- Parents generated a list of up to 10 “hopes or expectations for your child, things that you would like to have happen for him/her now or in the future”
- Participants selected their top five strivings or hopes
- Rated each striving or hope on five attribute dimensions using a six-point Likert scale that include degree of happiness, degree of unhappiness, amount of effort, degree of difficulty, and the probability of success.

**Results**

A total of 267 personal strivings and parental hopes were generated by the sample, with 129 personal strivings described by adults and 138 hopes for children generated from their parents. Two pairs of independent coders sorted strivings and hopes by content. Strivings and hopes were grouped into 22 specific content categories and these content categories were further grouped into eight overarching or general categories of strivings and hopes. The inter-rater reliability the content categories was .92. The general and specific types of personal strivings and parental hopes generated by participants are as follows:

- Personal Relationships: Romance and marriage, Parenting, Family, Friends
- Independence: Transportation, Self-sufficiency, Home, Financial
- Self-improvement: Physical health and personal appearance, Personal betterment, Travel and Leisure
- Mental health and addictions: Management of symptoms, Addictive substances, Mental health medication, Recovery, Acceptance and realism
- Education: Educational goals
• Employment: Work
• Religious and Spiritual: Religion or spirituality
• Be happy and live fully: Be happy, Be like others, Live fully

Most frequently generated strivings and hopes. Results suggest that the top five general types of strivings articulated by young adults consist of striving for the chance to be independent (25% of all strivings generated); to form meaningful relationships (18%), to improve themselves (17%); to continue their education (12%), and to find and maintain employment (12%). Among the most frequently generated hopes from parents is the hope that their child will form meaningful relationships (23% of all parental hopes generated); that their child will be independent (17%); that their child will gain and maintain employment (16%); that their child will comply with mental health medication and avoid addictive substances (15%); that their child will be happy and live fully (12%) and that their child will continue their education (12%).

Attribute ratings of strivings and hopes. Results of separate MANOVA analyses for adults and parents indicated no significant overall differences in five attribute ratings as a function of general strivings or hopes category or specific strivings or hopes category. Attribute ratings averaged across type of strivings/hopes were used in subsequent analyses. Results of separate MANOVA and subsequent univariate analyses for adults and parents indicate that on average, both adults’ and parents’ ratings of happiness (M = 4.5) should their strivings or hopes be realized are significantly higher than their ratings of the other four attributes (i.e., feelings of unhappiness [M = 2.9] should the striving or hope not be realized, the degree of perceived difficulty [M = 2.7] of the striving or hope, the perceived amount of effort [M = 3.3] the striving or hope would take, or the perceived probability of success [M = 3.2] of the striving or hope). Results also indicate that both adults’ and parents’ ratings of amount of effort required to achieve striving/hope (M = 3.3) are significantly higher than amount of difficulty (M = 2.7).

In terms of differences, adults generally rate the probability of success (M = 3.4) significantly higher than do their parents (M = 2.9). The overall perceived degree of difficulty and effort involved was significantly less for adults (M = 2.5, M = 3.0 respectively) than parents (M = 2.9, M = 3.6 respectively). On average, happiness ratings are significantly higher for parents (M = 4.9) than for adults (M = 4.1).

Study Conclusions

In general, young adults with mental illness and their parents express similar types of strivings and hopes. Overall, adults are more optimistic than parents, anticipating more success with less difficulty and effort. However, parents report being the happiest if their hopes would be realized. The content of adults’ strivings and parents’ hopes for ill child frequently relate to the desire for access to valued social roles such as employee, student, friend and spouse. This underscores the need for mental health programs to create settings that support the personal goals of consumers and the hopes of family members and continue to promote access to value social roles for people coping with serious mental illness.

General Implications of the Research Project

Results of the larger research project are currently being written up and disseminated to a variety of audiences. Although this research is not without limitations, use of multiple perspectives and the focus on young adulthood contribute to our greater understanding of life course issues facing families coping with serious mental illness. The study from the research project summarized here is one illustration of how empirical research can be used to “give voice” to families. Research that examines the social context of adults with mental illness and their families has direct implications for advances in community mental health treatment. Studies that examine how adults and families experience serious mental illness, and respond to disability, disadvantage and difference are key to improving practice and outcomes for those...
served by the mental health system. Community mental health in Ohio can continue to take a leading role in developing services and settings where adults with psychiatric disability can work toward and achieve their own goals and preferred futures.

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Other Publications of the Research to Date


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Paper Presentations of the Research to Date


Chronic illnesses, such as chemical dependency, have significant effects on families and the larger society. Providing care to a chronically ill person especially affects family caregivers, those family members who provide the most support and assistance to their ill family member. Across chronic illnesses, many family caregivers, most of whom are women, report experiencing moderate to high levels of burden, and some caregivers experience moderate to high levels of depression as well. Recent research also indicates that caregiving is an independent risk factor for mortality. Among the most significant problems that caregivers experience include: coping with disruptive behaviors, restrictions on social and leisure activities, infringement of privacy, disruption of household and work routines, conflicting multiple role demands, disruption of family relationships, lack of involvement in their ill relatives' treatment, and lack of sufficient interaction with and assistance from substance abuse, mental health, and human service professionals (Biegel, Sales, & Schulz, 1991; Bruhn, 1977; Schulz & Beach, 1999).

Similarly, families are the primary source of social support to persons with a co-occurring substance abuse and mental disorder, providing direct care as well as financial support to their ill relatives. Largely separate literatures have examined the impact of substance abuse disorders on the family system (Asher, 1992; Rice, 1996) and the impact of mental illness on the family members who provide caregiving assistance to them (Biegel & Schulz, 1999; Biegel, Song, & Milligan, 1995; Lefley, 1996). However, despite the fact that large percentages of people with a diagnosed addictive disorder also have at least one mental disorder and visa versa (Kessler et. al, 1996; Regier et. al, 1990), there has been very little research that has examined the roles and needs of families of persons of this population group and the health effects of caregiving upon them (Brown, Melchior, & Huba, 1999). Of the seven studies of families of persons with dual diagnoses reported in the literature (Clark & Drake, 1994; Dixon, McNary & Lehman, 1995; Kashner et. al., 1991; Mowbray et al., 1997; Ribisl, 1995; Sciacca & Hatfield, 1995; Silver, 1999), only one study examined the burden levels of family caregivers of persons with a co-occurring substance abuse and mental disorder, and this study utilized a very small sample size (Silver, 1999).

Thus, we know very little about the levels and types of involvement of family caregivers with their ill relative with a co-occurring substance abuse and mental disorder, their levels of burden, the coping strategies they utilize, families’ relationships with substance abuse and mental health professionals, families’ roles in the treatment of their ill relatives, the effects of substance abuse and mental health treatment upon both the family caregiver and the ill relative, or the relationship between the level of family support and patient recovery from substance abuse disorders and mental illness (Clark, 1996). We do not have a good understanding of which of these factors may serve to facilitate family involvement in the treatment of their ill relative, and which factors may serve as barriers to such involvement. In fact, most of what we know about the impact of substance abuse on family caregiver well-being has come from research with family caregivers of persons with serious mental illness.

In addition, clinical research on co-morbidity has paid less attention to the effects of co-morbidity between substance abuse and internalizing problems, such as depression or anxiety, than to co-morbidity...
of substance abuse and externalizing mental disorders (Merikangas & Stevens, 1998). Due to the significantly worse symptomatology with which individuals with a co-occurring substance abuse and mental disorder present, and the nature of these symptoms, (Cuffell, 1996; Drake, McLaughlin, Pepper & Minkoff, 1991; Drake, Rosenberg & Mueser, 1996), the impact on their families can be expected to be more significant than that on families with a member with a single disorder. Given also the fact that the inadequacies of the substance abuse and mental health treatment systems are compounded when one has an illness that cuts across service systems, the lack of research focused on the roles and needs of families with individuals with dual diagnoses represents a significant gap in our knowledge base.

Conceptual Framework

This study utilizes a stress-coping theoretical framework to extend previous research to families of women with a co-occurring substance abuse and mental disorder (Biegel & Schulz, 1999; Pearlin, Mullan, Semple, & Skaff, 1990). In this model, the primary stressors or environmental demands pertain to the functional limitations, problem behaviors, and substance use of the person with co-occurring disorders (i.e., the Care Recipient, or CR). The differential impact, if any, upon family caregivers of the types and frequency of substances abused by women will be examined in this model. Resources are protective factors that can protect caregivers (i.e., Care Giver, or CG) from the negative effects of stress. Together both sets of variables, stressors and resources, impact caregivers’ perceived stress and physical and mental health outcomes. For the purposes of this project the theoretical framework has been simplified, as a full test of the stress-coping model is not feasible or appropriate in a pilot study (see Figure 1 below).

Figure 1. Conceptual framework.

Group Membership (Dual Diagnoses vs. Substance Disorder Only)

- **CG STRESSORS**
  - CR Behaviors
  - CR Institutional Status
  - Frequency of CR Substance Use
  - Type of CR Substance Use

- **CG RESOURCES**
  - CG Coping
  - CG Social Support
  - CG Relationship with Treatment Professionals
  - CR Involvement in Treatment

- **CG OUTCOMES**
  - CG Burden
  - CG Physical Health Problems
  - CG Depressive Symptomatology

Study Aims

The objective of this pilot study is to enhance understanding of the impact upon families of having a female family member with a co-occurring substance abuse and mental disorder. Families can be a major source of social support to their ill family members. Family support and involvement have been shown to be positively related to retention in treatment and to treatment outcomes for persons with substance abuse disorders (Grey, Osborn, & Reznikoff, 1986; Higgins, Budney, Bickel, & Badger, 1994;
Siddall & Conway, 1988). However, family caregivers who are stressed by the caregiving experience and who subsequently develop physical and/or mental health problems of their own may not be able to provide adequate support and assistance to their ill family member. Unmet family caregiver needs can therefore pose barriers to treatment and/or can negatively impact treatment outcomes of their ill family members and increase the risk of exacerbation of the substance abuse and/or psychiatric disorders.

This study has three immediate aims: 1) to assess the feasibility of adapting instruments developed for family caregivers of persons with mental illness for use with family caregivers of women with a co-occurring substance abuse and mental disorder (e.g., cocaine and other drug abuse and anxiety, depressive mental disorder, or post-traumatic stress disorder) and caregivers of women with drug abuse only; 2) to gather preliminary descriptive data from family caregivers of key components of the stress-coping process; and 3) to assess a preliminary model of the correlates of caregiver well-being.

Ultimately, findings from this pilot study will build upon findings of the investigator’s previous research with lower socioeconomic status family caregivers of persons with mental illness (Biegel, Johnsen, & Shafran, 1997; Song, Biegel, & Milligan, 1997; Biegel et al., 1995; Biegel & Song, 1995; Biegel, Milligan, Putnam, & Song, 1994) in order to help design an R01 proposal for a longitudinal study comparing the impact of caregiving on family caregivers of adult women with a co-occurring substance abuse and mental disorder as compared with family caregivers of adult women with a substance abuse disorder only or those with mental illness only.

**Hypotheses**

Knowledge gained from the researcher’s previous studies of families of persons with mental illness has been utilized to identify key variables in the aforementioned stress-coping framework to conceptualize the relationship among these variables and to develop hypotheses. The population to be examined in this study differs from the population in the principal investigator’s previous research due to the presence of substance abuse in addition to mental illness. The principal investigator’s previous research demonstrated that care recipient behavioral problems and lack of social support, both informal and formal, were the strongest predictors of caregiver well-being. While these variables are anticipated to remain as significant predictors of caregiver well-being in the present study, their effects are expected to be more pronounced with the current study sample due to the magnified effect of some subjects having a substance abuse problem as well as mental illness. It is hypothesized that:

H₁: Women with co-occurring substance and mental disorders will have greater behavioral problems and higher rates of institutionalization than women with a substance disorder only.
H₂: Family caregivers of women with co-occurring substance and mental disorders will have poorer coping, less informal and formal social support, and less satisfaction with their involvement with their family members’ treatment professionals than will family caregivers of women with a substance disorder only.
H₃: Family caregivers of women with co-occurring substance and mental disorders will have higher levels of burden, lower reported physical health, and higher levels of depressive symptomatology than family caregivers of women with a substance disorder only.
H₄: Caregiver outcomes will be predicted by group membership (dual diagnoses or substance disorder only) and by caregiver stressors and resources.
H₅: Dual diagnoses will exacerbate the impact of stressors on caregiver well-being, such that stressors (i.e., behavioral problems) will have a stronger effect on caregiver outcomes (e.g., caregiver burden) for caregivers of persons with dual diagnoses.
H₆: Dual diagnoses will exacerbate the impact of resources on caregiver well-being, such that resources (e.g., lower CR involvement in treatment) will have a stronger effect on caregiver outcomes (e.g., caregiver burden) for caregivers of persons with dual diagnoses.
Methodology

The study uses an exploratory, non-experimental cross-sectional survey design, with all data collected by trained interviewers. Data collection began in March 2003 and was completed in March 2004. The study sample consisted of 123 adult women with a substance abuse and/or mental disorder and 123 of their nominated family caregivers (one family caregiver per adult woman). This represents a completion rate for the family interviews of 93 percent with the remaining 7 percent consisting of family caregivers who were unable to be reached or who refused. Subjects were recruited into the study from three sources, as follows:

1.) Dr. Lynn Singer’s NIDA funded longitudinal study “Cocaine Exposed Infants and their Mothers” (1998-present). Of the 415 mothers comprising this sample, over half (53%) have used cocaine during pregnancy, and the other half (non-cocaine using) have used alcohol (65%), tobacco (42%) and/or marijuana (13%). Further, 41% of the cocaine using women also have had clinically significant psychiatric problems, including anxiety, depressive disorders and post-traumatic stress disorder. The women in this sample are primarily African-American (80%), less than 30 years of age, non-married and of low socioeconomic status.

2.) A residential substance abuse treatment facility for women, located in the greater Cleveland area. This facility has the capacity to offer treatment services to as many as 30 women in early recovery, provides transitional housing and aftercare services to as many as 20 women, and is able to accommodate up to six women with children in on-site family suites (with average duration of stay overall being about 120 days). The majority of women in treatment at this facility are African-American and of low socioeconomic status.

3.) An outpatient substance abuse treatment facility for women located in the greater Cleveland area. This facility offers on-site individual and group treatment modalities for women in the more acute phases of early recovery. While there is a somewhat more diverse client population at this site, nonetheless the majority is African-American. Regardless of race or ethnicity, most of these women are of low socioeconomic status.

Procedures for establishing the study sample were as follows. First, current data were collected from the adult women in order to establish two study groups: 1) those with co-occurring substance abuse and mental disorders and 2) those with substance abuse only. These subjects were then asked to identify all family members in the Cleveland SMSA with whom they have ongoing contact. For each family member identified, subjects were asked whether or not that family member provides them with social support, defined by Cohen & Syme (1985) as “…flows of affect or emotional concern, instrumental or tangible aid, information and the like” (p. 85). Subjects were then asked to identify the one family member who provides them with the most social support (including affective/emotional support (e.g., listening to my problems), instrumental support (e.g., financial aid), and/or information (e.g., employment advice). Once permission had been secured to have this family caregiver contacted for participation in the study, the individual was contacted and an interview scheduled.

Research questions and hypotheses will be addressed using a combination of statistical techniques: factor analyses with calculation of alpha coefficients; univariate frequencies and descriptive statistics; Pearson correlation and cross-classification techniques; analyses of variance (MANOVA and ANOVA), and regression analyses. Data entry and preliminary data analysis are ongoing.
Measures

Measures utilized for this study are instruments with established and acceptable levels of reliability and validity. Instruments previously developed for use with caregivers of persons with mental illness were adapted for use in this study with caregivers of persons with a co-occurring substance abuse and mental disorder.

Substance Abuse and Psychiatric Measures. The project used the Diagnostic Interview Schedule for DSM-IV (DIS-IV) to determine drug and alcohol diagnoses and the following mental illness diagnoses: generalized anxiety disorder, posttraumatic stress disorder, and major depression/dysthymia. The DIS-IV is a revision of the Diagnostic Interview Schedule (DIS) which has demonstrated reliability and validity (Robins, Helzer, Croughan, Ratcliff, 1981; Helzer, Robins, & McEvoy, 1985.).

Caregiver Stressors

Client Behaviors. A Client Behaviors Scale developed by Biegel and colleagues (Biegel et al., 1994) for use with family caregivers of persons with mental illness was adapted for this study. This scale contains 37 items derived from previous work of Schulz et al., (1992) and Pasaminick, Scarpetti, & Dinitz (1967).

Care Recipient Offender Status was measured by the number of times that care recipients have been hospitalized or arrested during the past 12 months and the number of days they have spent in the hospital, jail or prison during the past 12 months.

Substance Use. Questions from the DSM-IV were asked to ascertain the frequency of Care Recipient’s use of nine types of drugs during a recent one month period when subjects were using drugs most frequently. Data on the frequency of drug use will be averaged across all nine drugs. Questions from the DSM-IV were also used to ascertain the frequency of alcohol use for the last year and for the year of maximum use. The specific type of substance use will be noted for the top three drugs and/or alcohol that were used most frequently during the above periods.

Caregiver Resources

Coping. The Brief COPE inventory developed by Carver, Scheier and Weintraub (1989) was used to determine coping characteristics. This scale is theoretically derived and covers virtually all of the conceptual domains of coping. It has been shown to have good reliability, and has been tested on large samples both as measures of stable coping predispositions and situation-specific coping strategies, with excellent correlations and factor structure stability exhibited between the two forms of the measure. The COPE inventory has also been successfully adapted for use with caregivers of severely mentally disabled persons (Mannion et al., 1996).

Social Support. The Interpersonal Support Evaluation List (ISEL) was used as a measure of overall social support. This 16-item scale has been well-validated (Cohen, Mermelstein, Kamarck & Hoberman, 1985) and shows very good reliability (Cronbach’s alpha = .85). It was used in our previous research with low-income and minority caregivers of family members with severe mental disability (Biegel, Milligan, Putnam, & Song, 1994) and showed good reliability with this sample as well (α = .85). It asks respondents to indicate their opinions concerning items that measure appraisal, belonging, self-esteem, and emotional support, as well as the amount of caregiving help and support they receive from their family and from agency professionals.
Support received from the care recipient was measured using the adaptation of Greenberg et al. (1994) of an instrument used in the National Survey of Families and Households (Sweet, Bumpass & Call, 1988). Respondents were asked to rate the amount of assistance received from the care recipient in eight areas, including: meal preparation and other household chores, financial assistance, care during illness, and companionship. Greenberg et al. report good reliability for this measure (Cronbach’s alpha = .83 for this study, .89 for a similar study; see Greenberg, 1995).

**Relationship with Treatment Professionals.** To assess for caregiver relationship with substance abuse and mental health professionals, an adaptation of measures developed by Biegel and colleagues for use with caregivers of persons with mental illness was utilized (Biegel et al., 1995; Biegel et al., 1994). Caregivers were asked whether they have had contact during the past six months with case managers, counselors, social workers, psychologists, or psychiatrists who were providing substance abuse or mental health treatment to their family member with co-morbidity. Those who answered affirmatively were asked to indicate their degree of satisfaction with that contact. Caregivers were also asked about their involvement with substance abuse and/or mental health professionals in a variety of areas such as adequacy of information they were given concerning their relatives' illness, involvement in treatment of their relatives, whether they were given advice in caring for their relative, etc.

**Treatment Involvement.** To assess for care recipient involvement in treatment, they were asked to provide data about the types, amounts, duration, and satisfaction with substance abuse and mental health treatments which they received during the previous six months. Care recipient involvement in treatment is seen as a resource for family caregivers.

**Caregiver Outcomes**

**Burden.** A Caregiver Burden Scale developed by Biegel and colleagues for use with family caregivers of persons with mental illness was adapted for this study. This scale contains 27 items derived from the Caregiver Burden Scale of Zarit, Reever & Bach-Peterson (1980), selected items from the Family Distress Scale of Pasaminick et al. (1967), and items generated from a review of the research literature on burdens of family caregivers with mental illness. It has been used with samples of lower social class African-American and Caucasian caregivers with good results (α = .89). The adaptations focused on adding items pertaining to burdens related to substance abuse (Biegel et al., 1994).

**Physical Health.** Caregiver physical health problems were assessed by asking respondents to rate their overall health on a five-point scale from excellent to poor. This question was developed and validated by the National Center for Health Services Research (Brook et al., 1979) for the Health Insurance Study.

**Depression.** The Center for Epidemiological Studies Depressive Mood Scale (CES-D; Radloff, 1977) was utilized to measure caregiver depressive symptomatology. This 20-item scale is designed to identify individuals at risk for depression. It has been used in clinical and psychiatric settings (Corcoran & Fischer, 1987) and has been widely used in studies of Alzheimer’s caregivers and caregivers of persons with mental illness (Schulz & Williamson, 1991; Schulz, Williamson, Morycz & Biegel, 1992). This scale was used in our previous research with a population of lower social class African-American and Caucasian caregivers with acceptable reliability (α = .90) (Biegel et al., 1994).

**Implications for Research and Practice**

The findings from this pilot research study will have implications for both research and clinical practice pertaining to women with co-occurring substance abuse and mental disorders and their family members. Family support and involvement has been shown to be related to retention in treatment and to...
positive treatment outcomes for persons with substance abuse disorders, yet we know little about the impact upon families of having a family member with a co-occurring substance abuse and mental disorder. Unmet family caregiver needs can be a barrier to treatment and/or can have a negative impact on the treatment needs of their ill family members. Thus, this study will add to our knowledge of the facilitators and barriers to families' involvement in the treatment of their family member with a co-occurring substance abuse and mental disorder, an area in which there has been little previous research. Based on the findings from this pilot study, the principal investigator and colleagues will design a longitudinal study using the stress-coping theoretical model with a larger sample that will allow a fuller test of the factors pertaining to families' involvement in the treatment of their relative with co-occurring disorders. Information from this pilot can also provide useful preliminary data that could be helpful to substance abuse and mental health treatment programs in enhancing the involvement of families in the treatment of their relatives with co-occurring disorders.

REFERENCES


IMPLEMENTING THE RECOVERY MODEL FOR PERSONS WITH SERIOUS MENTAL ILLNESS

Northcoast Behavioral Healthcare

Peter F. Buckley, MD
Laurie Heller, BS

Mandel School of Applied Social Sciences
Case Western Reserve University

David E. Biegel, PhD        Robert D. Shafran, PhD

The Recovery Model is now a primary guiding philosophy in mental health service delivery (Anthony, 1993). This approach is rooted in personal attributes and abilities of individuals with mental illness, thereby reframing the process of care around the individual's long term expectations and lifetime aspirations (Deegan, 1988; Weingarten, 1994). Several consumers and clinicians have distilled and detailed the components of the Recovery Model in clinical practice. Mead and Copeland (2000) emphasize hope, personal responsibility, peer support and advocacy. They also highlight the role of medications, the importance of educating consumers and clinicians alike, and the need of mental health professionals to be open to a paradigm shift which fundamentally “deemphasizes,” but does not devalue, the medical model. Others (Jacobson & Greenly, 2001a & b; Corring & Cook, 1999; Jacobson, 2001; Pettie & Triolo, 1999; Torrey & Wyzik, 2000) echo similar themes. Noordsy and colleagues (2002) propose three criteria (hope, self responsibility and “getting on with life beyond illness”) to define recovery and they highlight how each criterion can be objectively measured at intrapsychic-subjective, interpersonal-behavioral and environmental levels.

There is less literature, however, on how to implement such an approach. Rudnick (2002) provides an account of goal setting among clients and points out that recovery-based individual goals may be more difficult to achieve when client circumstances pose risk-management or societal concerns. Young (2000) and Young and Ensing (1999) implemented recovery-based focus groups among consumers at a community mental health center. A curriculum was developed for a ten-week intervention and a qualitative content analysis was performed to evaluate which components of the intervention were helpful. Bullock and colleagues (2000) describe a recovery-based educational curriculum for consumer members of mental health boards. In pre-post comparison, they highlight that empowerment and self-esteem are more stable indicators of recovery than positive symptoms. Frese and colleagues (2001) emphasize that different elements of the Recovery Model may apply depending on the consumer's level of functioning and “engagement”. They also highlight how Recovery principles integrate with other mental health Best Practices.

This focus on Recovery now provides a propitious environment to evaluate the Recovery Model in a naturalistic treatment setting. Reported herein is an account of the implementation and evaluation of the Recovery Model at a long-term state hospital facility dedicated to Best Practices.

The Recovery Intervention

The Ohio Department of Mental Health (ODMH) was one of the first public mental health systems to incorporate the Recovery Model (Frese et al., 2001; Townsend et al., 1999). A steering group, including co-author (PB), met over several months to develop a guiding document with specified
activities for the recovering individual, for relatives, for clinicians, and for community services according to the person's status along the four levels of recovery (Townsend et al., 1999). This initiative was rolled out at each state hospital in Ohio, including at Northcoast Behavioral Healthcare (NBH), a 450-bed hospital comprising acute care and long-term facilities.

With the assistance of consultants from Boston Center for Psychiatric Rehabilitation, NBH proceeded in 1999 to implement a change in patient care based upon the Recovery Model. Recovery lead facilitators were identified with a new role to guide treatment teams. Treatment teams received training to ensure maximum patient participation and ownership of his/her Recovery service plan. This process began by establishing a long-term view and assessing consumer readiness. Thereafter, the consumer and Recovery team jointly set the role recovery goal. Each participant and his/her Recovery team determined whether the person was at an engagement stage, readiness development stage, choosing valued roles stage, or achieving valued roles stage. Thereafter, an individualized Recovery plan was developed which encompassed several key components and processes:

- treatment
- rehabilitation
- enrichment
- peer support
- basic support
- crisis intervention
- rights protection
- case management

Because the Recovery intervention represents a fundamental shift in philosophy, it was anticipated that this would evoke a strong response from staff in terms of perceptions of its implementation, philosophical tenets and perceived efficacy, as well as impact upon staff satisfaction. These same domains were also considered relevant for patients at NBH who would embark on a shift away from medicalized care toward a more dynamic and interactive approach. Therefore, particularly given a relative paucity of effectiveness research on the impact of this Recovery paradigm, the purpose of this study was to evaluate the clinical effectiveness and functional outcomes of implementation of a Recovery Model across domains of individual recovery experience and perceived therapeutic efficacy, functional and symptomatic improvement, and staff and organizational empowerment. We hypothesized that the Recovery program would result in greater improvements in patient symptomatology, functioning, quality of life and empowerment compared with treatment as usual. We were also interested to determine perceptions of patients and staff about the Recovery Model.

**Study Design & Timelines**

The study utilized a quasi-experimental, longitudinal design incorporating both quantitative and qualitative components, and was of 24 months duration (June 2000 – May 2002). Data were collected at four points in six-month intervals.

**Study Sample and Recruitment**

To be eligible for study inclusion, patients needed to have been in the hospital a minimum of 30 days prior to the first interview. Patients had to complete two interviews in order to be included in the final study sample; thus, no new subjects were interviewed at the fourth point of data collection. One unit at NBH was designated as the Comparison unit, with patients on that unit continuing to receive treatment as usual (TAU). Two units were omitted from the study, due to the transient nature of acute admissions. All remaining units comprised the Treatment group and received the Recovery program.
Staff participants consisted of unit social workers, psychologists, psychiatrists, first-shift-only nurses and therapeutic program workers. Staff on the Treatment and Comparison units were designated as Treatment and Comparison staff, respectively. As such, Comparison staff did not participate in implementation of the Recovery project, but continued to provide patients on the Comparison unit with treatment as usual. Staff were informed that their participation (or refusal) would not affect job status or opportunities and that all data would be presented in aggregate form only.

Patients who were deemed capable by their psychiatrist of giving informed consent were approached by project staff. All subjects were informed, both upon obtaining written informed consent and at the time of interviews, that they might refuse to answer any questions and terminate their study participation at any time without reason or consequence.

Trained research personnel conducted study interviews, lasting approximately 30-45 minutes. All subjects received reminders about interviews prior to each data collection wave and they received a letter of appreciation following their participation.

**Study Measures**

Patient interviews consisted of a combination of fixed-response and open-ended questions; staff interviews consisted exclusively of open-ended questions. Five broad patient domains were examined: Symptomatology, Functioning, Quality of Life, Empowerment and Vocational Attainment. These were assessed primarily through the use of pre-existing scales and measures with proven validity and reliability in combination with open-ended questions that facilitated a more complete and holistic understanding of patient attitudes and concerns.

The Brief Psychiatric Rating Scale, an 18-item clinician-rated evaluation (BPRS; Overall & Gorham, 1962) in routine use at NBH since 1994, was used to assess patient symptomatology. The Global Assessment of Functioning (Endicott, Spitzer, Fleiss & Cohen, 1976), a clinician-rated 100-point evaluation on a composite functional scale and part of the ODMH inpatient clinical outcomes measurement initiative routinely completed for all NBH patients, was used to assess patient functioning. A modified version of Lehman’s Quality of Life--Core Version (Lehman, 1988) was used to measure patients’ quality of life. The Quality of Life instrument measures objective and subjective perceptions of well being within life domains including daily functioning, living situation, leisure activities, family relations, finances, work, legal/safety issues and health. The instrument works well with very low-functioning consumers and is relatively easy to administer.

Empowerment can be understood as the degree to which individuals with mental illness direct their own recovery process. The Making Decisions Empowerment Scale (Rogers, Chamberlain, Ellison & Crean, 1997) was used to assess levels of patient empowerment. This measure, consisting of 28 questions rated on a Likert-type scale ranging from “Strongly Disagree” to “Strongly Agree”, assesses personal empowerment in general (i.e., not specifically relating to recovery) and is comprised of five subscales: Self-Efficacy, Powerlessness, Community Autonomy, Optimism and Anger (Bullock, Ensing, Alloy, & Weddle, 2000).

Additionally, selected items from the “Recovery, Empowerment and Personhood” section of the Peer-Support Outcomes Protocol Project (1999) were utilized to measure empowerment. The four items selected, “In general, I am satisfied with my progress towards recovery from mental illness”; “I take an active role in decisions about my mental health services”; “I have hope that I will recover from mental illness”; and “I am knowledgeable about mental health issues” dealt specifically with consumer perception of his/her current recovery status, and did not duplicate the other empowerment measure.
Assessment of patient work functioning in hospital duties was conducted by the NBH Rehabilitation Department, with ratings on social skills, work habits, cooperativeness, work quality and personal presentation. In addition, open-ended questions (developed through brainstorming of items from recovery literature) were used to probe patients’ and staff perceptions of the Recovery project.

**Data Analysis**

All quantitative data were entered into databases using SPSS Data Entry Builder v. 1.02. Cronbach’s α was computed as a measure of reliability for all scale and subscale measures used as independent variables and achieved a Cronbach’s α of .70 or higher. Data were checked to assure they met the assumptions of logistic and ordinary least squares regression and frequencies were checked to assure adequate distributions. Bivariate correlations were reviewed to identify potential problems of multicollinearity, and tolerance values for all variables were within acceptable limits. Linearity between model variables was examined with bivariate scatter plots of each continuous independent variable against dependent variables and examination of residual plots from regression analyses. Leverage values and DFBETAs were used to identify potential outliers. All regressions were run twice, once with all cases included and then with potential outliers excluded; no change in significance status of variables was observed in regression analyses performed with omission of potential outliers.

With regard to qualitative data, responses from all open-ended questions were transcribed from original questionnaires into a Microsoft Excel database and subjected to a thematic content analysis (Patton, 1990) to uncover and elucidate emergent themes. Themes from individual questions that were related to each other were collated and tallies of the number of subjects endorsing each theme were made, ranking themes in order of frequency of endorsement.

**Results**

In all, 236 patient and 189 staff interviews were conducted. For patients, variability across assessment points resulted from several factors, including patient admissions, discharges and transfers to other facilities and refusal to be interviewed again. Variability for staff resulted from some staff being unavailable for interviews (either due to illness or vacation) and transitioning of some staff between Treatment and Comparison groups. For the Patient Treatment group, half completed only the minimum of two interviews; relatively few patients completed all four interviews (24.2% and 26.3% for the Patient Treatment and Patient Comparison groups, respectively). By contrast, the majority of staff participants completed all four interviews (56% and 80% for Staff Treatment and Staff Comparison groups, respectively). Approximately two-thirds of all patient subjects were in the hospital under involuntary admission status. There were no significant differences between Treatment and Comparison group patients on any of these variables.

Patient groups differed significantly at baseline only on the measure of functioning, with the Treatment group exhibiting higher functioning than those in the Comparison group. Overall, patients reported being “mixed” to “mostly satisfied” regarding their quality of life. The differences in level of functioning between Treatment and Comparison Group patients, noted at baseline, persisted in subsequent evaluations until the final assessment, when no statistically significant difference in functioning was evident. Treatment Group patients also exhibited significantly higher empowerment and lower positive symptomatology than Comparison Group patients at the second assessment point.

Ordinary least squares regression and logistic regression were used to test prior hypotheses by examining the impact of group membership on improvement in symptomatology, functioning, quality of life and empowerment. The dependent variables for those hypotheses consisted of difference scores on
the respective measures of those constructs; in each case, the difference score was computed as the
difference between the individual’s last and first score on the measure obtained during the study period.

Patients in the Recovery Model had greater improvement in functioning over the course of the
study, compared with patients receiving treatment as usual. As expected, patients on involuntary
commitment status had significantly longer lengths of stay. Patient education was also significantly and
negatively correlated with length of stay, such that better educated patients had shorter hospitalizations.
Also, Comparison Group patients were significantly more likely to have been discharged than were
Treatment Group patients ($\chi^2 = 5.87$, significant at $\leq .05$; ExpB = 17.93), holding all other factors
constant. Two additional variables were significantly related to discharge status: patients with voluntary
commitment status were more likely to have been discharged ($\chi^2 = 6.26$, sign. at $\leq .05$; ExpB =
7.48) and those with diagnoses other than schizophrenia were less likely to have been discharged ($\chi^2 = 4.53$, sign. at $\leq .05$; ExpB = .14).

The thematic analysis of patient and staff answers provides a qualitative account of the
differential perceptions of care at this facility. Since the number of staff respondents ($n = 10$) on the
treatment-as-usual units was too low for meaningful comparison, only comments of staff on Recovery
treatment units are reported. Moreover, both staff and patient content analysis is merely illustrative and
should be interpreted with caution. They illustrate high levels of patient acceptance and feelings of
personal empowerment with treatment at this facility, irrespective of whether patients were receiving the
Recovery model or treatment as usual. The staff responses (especially negative themes) discriminate at
least qualitatively patient subgroups that are less likely to benefit from the Recovery approach.

Discussion

The main findings to emerge from this study of the Recovery Model at a state hospital are: (1) the
Recovery Model can promote greater functional improvement among long-stay state hospital patients, (2)
this impact is, however, not associated with demonstrable differences in symptoms between patients
receiving Recovery Model and those receiving treatment as usual, and (3) patients and staff have explicit,
and sometimes divergent, viewpoints as to which components of care work best to enhance recovery.

The Recovery Model, a major focus of current rehabilitation for persons with serious mental
illness (Anthony, 1993; Jacobson &Curtis, 2000), seeks to maximize the personal attributes and abilities
of individuals with mental illness, and in doing so, to refocus the development and delivery of care
around a person's long term expectations and lifetime aspirations (Deegan 1988; Mead & Copeland,
2000). Frese and colleagues emphasize that in order to be successful and widely adopted, this Recovery
Model must be tested in the context of emergent Evidence-Based Medicine (EBM) for mental health. This
is consonant with the evolution of other therapies in mental health (Drake et. al., 2001). The
implementation of the Recovery Model within hospitals of the Ohio Department of Mental Health, a
national leader in progressive mental health care, provided a timely opportunity to evaluate the
effectiveness of this model.

The main finding of differential outcome between the Recovery Model (RM) and the treatment-
as-usual (TAU) groups is that of significantly more improvement in functioning among patients in the
RM group. The improved psychosocial functioning in the RM group is consistent with expectations of the
Recovery Model (Deegan, 1988). This effect persisted, even when controlled for other factors (e.g.,
voluntary/involuntary status, diagnosis). This difference is all the more impressive given that the study
population was largely comprised of long-stay patients with chronically low levels of psychosocial
functioning. It is surprising, however, that this advantage was not associated with other benefits in
symptoms in the RM group. It is possible that the primary measure chosen for evaluation of symptoms
(BPRS) was insensitive to differential change between groups. Also, contrary to the a priori hypothesis,
we observed better rates of community discharge between patients receiving TAU compared to patients receiving RM.

It is also surprising that patients receiving the RM did not show significant differences between TAU patients on more specific measures of empowerment. The Making Decisions Empowerment Scale (Rogers et. al., 1997) evaluates a general perception of empowerment and may not tap aspects of functioning of much relevance among long-stay patients. This may be the case, although this measurement has proved useful in other community-based studies on recovery (Bullock et. al., 2000).

It is also important to highlight that several factors mitigated against discovering outcomes differences between the two treatment groups. This was not a random assignment study and it was conducted as part of a facility-wide effort to change treatment practices. Because it was administratively and clinically driven, changes in unit staff assignments and other treatment-related clinical decisions occurred independently of the study. The effect of these influences is unknown, yet represents the anticipated “noise” in effectiveness studies in such settings (Lamberti, Melburg, & Madi, 1998). It is also unclear whether, following an initial period of RM intensive training, some “drift” in practice may have occurred during implementation. It is known that model fidelity is an important component of successful psychosocial treatments (Drake et al., 2001).

On the other hand, it is clear from qualitative comments and the content analysis thereof, that patients and staff embraced this change in treatment philosophy at NBH. Positive influences included the perception of enhanced empowerment, engagement, empowerment in treatment, and installation of hope. It is perhaps surprising that the impact of spirituality was noted by relatively fewer in the patient group. On the other hand, negative themes did not so much focus on the RM, but rather reflected more general aspects of institutional living. While it is difficult to discern a clear direction of effect of the RM from such qualitative analysis, this observational information is nevertheless of interest in experiencing the impact of treatment change among patients and staff alike.

This report provides a detailed account of the implementation and measurement of the RM in a state hospital system which is dedicated to progressive mental health care. The main finding of this study, namely, that patients receiving the RM had greater functional gains than patients receiving standard treatment, is important and has implications for the delivery of care in similar institutions. It would be encouraging to have this finding replicated in another comparable inpatient sample. The findings and account of the present study will hopefully be of interest to clinicians working in similar systems, as well as administrators who may contemplate clinical systems change.

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**Other Publications of the Research to Date**


**Paper Presentations of the Research to Date**


**Source of Funds:** This research was supported by Grant # 00.1152 from the Office of Program Evaluation and Research, Ohio Department of Mental Health, and by the Cuyahoga County Community Mental Health Board.
Using convenient sampling techniques, two mental health consumer groups were investigated to study the types of caregiving relationships that correlate with ODMH principles of recovery. In the first group, three consumers (one with major depression and two with schizophrenia) were studied for 24 months while they engaged in problem-solving with informal and formal caregivers. In the second group, three case managers and three of their consumers (e.g., two with schizophrenia and one with schizoaffective disorder) were studied for 24 months while they engaged in problem-solving activities. Participant-observation methods were used to collect data; a total of 628 problem-solving events were observed and coded—401 events among the consumer caregivers (or first research group) and 227 events among the case manager/consumer dyad (or second research group). Data analysis utilized coding strategies from the literature on problem-solving and the qualitative literature on the subjective experience of recovery from schizophrenia.

Case study and aggregate analyses show that formal and informal mental health problem-solving activity (i.e., the external world of resource acquisition and help with daily living activities) can be correlated with practical and intuitive caregiving concepts—doing-for, doing-with, doing-for-oneself, and standing-by-to-admire—and that the consumer’s internal experience of recovery (i.e., the emotional process of recovery) can also be correlated with practical and intuitive concepts—overwhelmed, struggling-with-disability, living-with-disability, and living-beyond-disability. The findings are used to argue that the ODMH principles of mental health recovery (e.g., hope and self-mastery) and services (e.g., clinical, work/meaningful activity, peer and family) do in fact correlate to what caregivers actually do. Finally, using intersubjective, clinical, and social psychology theories, it is argued that self-mastery and hope are products of relationships that use practical concepts to guide the process of recovery; the implications for the training and the practice of recovery case management are discussed. Findings, however, are limited by the research design, thus generalization, validity and reliability will need further development.

Setting

From 1993 to the present, ODMH has implemented several initiatives to define a new model of practice called recovery:

... professionals, consumers, and family members were invited to present papers on recovery from widely divergent perspectives. Though the ensuing discussions were not intended to provide a consensus, there seemed to be general agreement that recovery is an internal, ongoing process [emphasis added] requiring adaptation and coping skills, promoted by social supports, empowerment and some form of spirituality or philosophy that gives hope and meaning to life (Beale & Lambric, 1995, p. 8).

A series of “dialogues” throughout the state was conducted with “consumers, family members, providers, and clinicians” to explore what recovery means, what effects a recovery philosophy would have on the current system, and what actions could “be taken to understand and promote recognition of Recovery
approaches” (Townsend, Boyd, Griffin & Hicks, 2000, p. 1). Findings were combined and published as a beginning practice guidebook or manual: “Emerging Best Practices in Mental Health Recovery” (Townsend et al., 2000). ODMH defined recovery as a non-linear process of social interactions (relationships) among service providers, caregivers, and consumers. They further explained that, during these interactions, emotional experiences often switch from “aware” to “unaware” and self-sufficiency skills often switch from “dependency” to “interdependency.” Thus, four states of “being” were defined and became an organizing framework for a recovery manual: (1) dependent-unaware, (2) dependent-aware, (3) independent-aware, and (4) interdependent-aware. Moreover, it was the obligation of practitioners to work with consumers in partnerships, regardless of the state of dependency and awareness, to secure nine essential service components: (1) clinical care, (2) family support, (3) peer support and relationship, (4) work/meaningful activity, (5) power and control, (6) stigma, (7) community involvement, (8) access to resources and (9) education.

To help professionals, caregivers, and consumers combine the nine service needs with social interactions, recovery architects used four matrices to organize the manual; each matrix column was labeled with an essential service and each row defined a participant role. In short, the cells of the matrix were filled with status descriptions (e.g., accepts responsibility and involves him/herself in the community) and role definitions for each participant category (e.g., solicits input from consumer and his/her family). For each of the four dependence and awareness states of being, consumers, clinicians and community members had assigned “best practices.” In all, the manual included 108 (there were 4 prescriptive statements for 27 cells) suggestions for who should do what; it was the first taxonomic system for practicing recovery.

To test the practicality of the recovery model and manual, proposals were solicited to study implementation. Mental health boards throughout Ohio submitted requests to design implementation projects that would utilize the model. The Cuyahoga County Community Mental Health Board (CCCMHB), Cleveland, Ohio, was one of several that received a three-year grant to fund a “Recovery Systems Development Project.” The research data used in this chapter were collected as part of a qualitative evaluation of one CCCMHB pilot project. We focused on the interactions (interpersonal relationships) among service providers, caregivers, and consumers to examine how the principles of recovery were promoted.

In instances where we observed case managers using the “Emerging Best Practices” manual, it was implemented as a prescriptive language and tool. With respect to the problem-solving activities observed (n = 628), we found only 12 instances where case managers had actually used the manual to guide interactions. Did this mean that the principles and goals of recovery were not being practiced? To answer this question, we focused data analysis on the process of recovery work and identified the relational aspects that were compatible with ODMH recovery principles and ideas.

Sample

Using a convenient sampling technique, we selected two research groups (i.e., case manager and consumer network). For the first group (case manager group), supervisors of six agencies were asked to identify case managers willing to participate. Next, we asked case managers to identify consumers who would consent to our accompaniment as they received help or services from their case manager. Because agency and practitioner commitment varied, of the 14 recruited case managers, we consistently collected data on only three. We solicited a second group of research participants (consumer network group) from a consumer-operated drop-in center and from a community-based housing program. These efforts resulted in the engagement of three consumers over 24 months; of the eight initially recruited, we collected consistent data on three.
**Data Collection**

Case managers, consumers, psychiatrists, doctors, and supported employment specialists were observed as they engaged in relationships to negotiate the acquisition of community goods and services. We were immersed in the everyday lives of consumers and case managers and we recorded the oral narratives among participants (for more on methods, see Floersch 2004a & b; 2002; 2000). Every effort was made to enter the worlds of practitioners and consumers through regular interactions and observations. In short, we sought raw data in the interpersonal relationships of actual case management and routine mental health service delivery. In consumer networks, we became participant-observers. First, we participated as case managers in transporting consumers to appointments, helping them access resources (e.g., grocery shopping), and staying in continuous contact with the experience of everyday life. Second, we observed service providers and other caregivers as they interacted with consumers. Third, we observed case managers conduct routine case management in community settings. And finally, we coded the activities of case management and caregiving of both research populations (i.e., three consumer networks and three case managers) to describe how self-mastery, empowerment, and non-linear progress—key aspects of the ODMH recovery model—were experienced.

**Data Analytic Strategy**

Analysis of consumer network data relied solely on written field notes collected in daily journals chronicling researcher and participant interaction; however, analysis of case manager data depended on audio recorded consumer and case manager interaction. Our analysis began two and one-half years into data collection by applying a coding scheme to the field notes and the transcriptions; the scheme was not pulled from the data in a strict inductive fashion, as might be done with a grounded theory approach. Instead, we utilized the ODMH nine essential service areas and coded the consumer network data by asking who did what, when. Interpersonal relations were coded according to the following categories of problem-solving activity: (1) doing for, (2) doing with, (3) doing for oneself and (4) standing by to admire. The latter coding scheme was taken from a literature on caregiving and developmental theory (Furman 2001); it was also derived from Floersch’s (2002) previous study of case managers, where he had identified an invented and practical manager language of “doing for” and “doing with.” We used the ODMH definitions of aware and unaware to code our perceptions of consumer awareness (see the codebook, Appendix A, in the “Final Report: Recovery Implementation Study,” Grant # 02.1150, ODMH).

The next analytic strategy was to code for the “internal, ongoing process” of recovery, as ODMH and advocates had conceptualized (Beale & Lambric 1995, p. 8). We sought a method for coding consumer internal experiences during observable problem-solving activities and borrowed the second coding scheme from a qualitative study of the subjective experience of recovery (Spaniol, Wewiorski, Gagne, & Anthony, 2002). In this study, researchers identified, among consumers, four subjective (emotional) experiences: (1) overwhelmed by disability, (2) struggling with symptoms of disability, (3) living with symptoms of disability and (4) living beyond disability. Finally, we created a matrix (see Figure 1) called the Zone of Recovery Relatedness (ZRR), which enabled us to correlate the observations of the internal (emotional) experiences of consumers with observations of the social relations of problem-solving activity.

The process of coding data helped us focus on the mechanics of caregiving relationships. We observed that the internal (emotional) experience fluctuated from event to event and even within particular events. At times consumers were overwhelmed by their disabilities and felt helpless and, therefore, dependent on providers and caregivers. At other times, they struggled with disabilities and to emerge from or prevent themselves from slipping into helplessness and dependence. Still, at other moments, they lived with their disabilities and managed symptoms. We did not observe anyone living
beyond disabilities, almost free of symptoms, for any length of time.

Figure 1. Zone of Recovery Relatedness (ZRR).

<table>
<thead>
<tr>
<th>Social Relations of Problem-Solving Activity</th>
<th>Feeling</th>
<th>Thinking</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBA = stand by to admire</td>
<td>O</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DFO = do for oneself</td>
<td>SW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DW = do with</td>
<td>LW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DF = do for</td>
<td>LB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Feeling | Thinking | Action

Internal States of the Recovery Process

O overwhelmed by disability
SW struggling with disability
LW living with disability
LB living beyond disability

Just as internal (emotional) experiences fluctuated, so did the social relations of problem-solving activities; indeed we used the ZRR to map the changing relationship between the internal and social worlds. At times, consumers were totally dependent on professionals and caregivers, who would do tasks for them. However, some were less dependent on helpers and could do tasks with them. Still, at others times, as they regained self-confidence, they needed helpers only to stand by and admire emerging independence, jumping in only when wavering. And finally, sometimes consumers recovered self-confidence and would do for themselves.

Because the ZRR combined our observations of the consumers’ internal (emotional) and external (social relations) experience, we were able to plot their correlation. We began to understand how an overwhelmed and therefore ‘dependent’ consumer, who relied on a caregiver to do tasks for them, could recover their confident selves and move toward living with disability and to do (accomplish) for themselves. We wanted to understand how this movement was possible and sustainable. Because we observed that consumer actions in the ODMH essential service areas were influenced by feeling and thinking and awareness of behavior, we added feeling, thinking and action components to our analysis.

Inter-rater and coding reliability was assessed. First, two researchers using the ZRR matrix independently coded the data. Second, their emergent differences were compared and discussed. In approximately five percent (20/421) of the consumer network problem-solving observations, coders disagreed on a match between the codebook definition and the actual data; in instances of disagreement, data were discarded. Using the same method for the case manager data, 13 events or approximately five percent (13/240) of the problem-solving observations were discarded; the final number of problem-solving events used in the analysis was 628.

Aggregate Analysis

The consumer network data are presented first. Among the three consumer networks researched, we coded 401 distinct problem-solving events. As Table 1 shows, consumer internal states oscillated almost equally between struggling with \( N = 174 \) and living with the disability \( N = 165 \). In other words, of the 401 problem-solving events observed, 85 percent of consumer internal states were neither overwhelmed (15%) nor living beyond the disability (0%). It is also evident that the social relations of problem-solving activity were evenly distributed among doing for \( N = 137 \), doing with \( N = 130 \), and doing-for oneself \( N = 119 \); in addition, and quite remarkably, there was little activity that could be
coded as standing by to admire \( (N = 15) \). Using data presented in Table 1, simple correlations between the social relations of problem-solving and consumer internal states can be analyzed. For example, the majority of overwhelmed internal states (52 of 62 events) correlated with 38 percent (52 of 137) of all doing-for problem-solving activity; another 46 percent (63 of 137) of doing-for activity was correlated with struggling with the disability. Thus, 84 percent (115 of 137) of doing-for problem-solving activity was correlated with consumer internal states of overwhelmed or struggling with the effects of the disability. Still, with living with the disability, consumers relied on doing-for activities in only 16 percent \( (N = 22) \) of observed events. Doing-for-oneself activity was highly correlated with struggling with and living with the disability (117 of 119). Apparently, network members stopped doing-for activity when the consumer’s internal state (i.e., struggling with or living with disability) encouraged either doing with or doing for oneself. Indeed, in making similar comparisons between problem-solving activity and internal states, a general trend toward the hoped-for direction was suggested: less doing for as consumers struggled and lived with their disabilities. For example, 71 percent (240/339) of struggling with and living with disability internal states were correlated with doing-with and doing-for-oneself problem-solving activities.

Table 1. Consumer Network Problem-Solving Activity by Recovery Internal States

<table>
<thead>
<tr>
<th>Social Relations of Problem-Solving Activity</th>
<th>O overwhelmed by disability</th>
<th>SW struggling with disability</th>
<th>LW living with disability</th>
<th>LB living beyond disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>standing by to admire ( N = 15 )</td>
<td>1</td>
<td>4</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>doing for oneself ( N = 119 )</td>
<td>2</td>
<td>42</td>
<td>75</td>
<td>0</td>
</tr>
<tr>
<td>doing with ( N = 130 )</td>
<td>7</td>
<td>65</td>
<td>58</td>
<td>0</td>
</tr>
<tr>
<td>doing for ( N = 137 )</td>
<td>52</td>
<td>63</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>( N = 401 )</td>
<td>62</td>
<td>174</td>
<td>165</td>
<td>0</td>
</tr>
</tbody>
</table>

Note. \( N = 3 \) consumer networks followed over 24 months, which resulted in 401 problem-solving events observed and coded.

We coded each of the 401 problem-solving activities according to the type of ODMH service component that best represented the activity. The total N equals 558 because some events could be coded as two services; for example, a consumer could be solving a money problem in a manner that was also clinically helpful, or would stimulate family or peer support. In the three consumer network cases, the majority received clinical \( (N = 193) \) and access to resource \( (N = 130) \) service components; combined they represented 58 percent of all services. The next highest service components were peer support \( (N = 53) \) and work/meaningful activity \( (N = 50) \). Thus, three-quarters of the problem-solving activities could be coded according to four ODMH service components: clinical, access to resources, peer support and work/meaningful activity.

We analyzed the 401 events and looked to see if the consumer seemed aware or unaware of: (1) how the problem-solving activity might contribute to recovery or (2) how the type of ODMH service component might contribute to recovery. Consumers were generally (56%) aware that problem solving-activity and service were critical to their recovery process. Still, of 401 events, consumers lacked
awareness (44%) of which type of service component or problem-solving activity would contribute to their basic self-care or recovery.

Although most (77%) of the problem-solving activity was aimed at and evenly distributed between thought ($N = 315$) and action ($N = 300$) components, network members also considered consumer feelings ($N = 185$, or 23%). Apparently, network members placed a majority of their efforts on organizing consumer thinking and action and missed important opportunities to help consumers organize and use their feelings to also direct recovery efforts.

In Table 2, data collected by observing three case managers conduct twenty-three community or home visits that lasted one to two hours each are presented; these were community interactions where, following informed consent procedures, the researcher audio taped case manager and consumer interactions. The coding definitions applied to the consumer network data were used to analyze case manager data. Unlike in the consumer network research, where we observed formal and informal caregivers, the data in Table 2 represent only case manager and consumer problem-solving activity.

<table>
<thead>
<tr>
<th>Case Mgr. 1</th>
<th># of audio taped transcripts from community visits/interactions</th>
<th>Doing for</th>
<th>Doing with</th>
<th>Doing for oneself</th>
<th>Standing by to Admire</th>
<th>Number problem-solving events</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11</td>
<td>44</td>
<td>29</td>
<td>6</td>
<td>5</td>
<td>84</td>
</tr>
<tr>
<td>Case Mgr. 2</td>
<td>6</td>
<td>28</td>
<td>17</td>
<td>9</td>
<td>0</td>
<td>54</td>
</tr>
<tr>
<td>Case Mgr. 3</td>
<td>6</td>
<td>39</td>
<td>29</td>
<td>9</td>
<td>12</td>
<td>89</td>
</tr>
</tbody>
</table>

Table 2. Case Manager and Problem-Solving Activity

Twenty-three case manager and consumer interactions represented 227 distinct problem-solving events; of the 227 events, 49 percent ($n = 111$) were doing-for activities. In the second research group (case manager and consumer only interactions), only 17 percent ($n = 39$) of consumer internal states were coded as overwhelmed; overall, 83 percent of consumers were struggling with or living with their disability. Case managers did a great deal of doing for as consumers struggled with and lived with their disabilities. In other words, even though consumers were typically (17%) not overwhelmed but struggling with or living with their disability, case managers nevertheless applied a great deal of doing-for activity (49% of all problem-solving activity). In contrast, recall that in the consumer network group (see Table 1), participants were overwhelmed (15%) at about the same proportion as consumers in the case manager research group (17%). But consumer informal and formal members provided doing-for activity in 34 percent (137/401) of all problem-solving activities, as opposed to the case managers’ 49 percent. In no cases did we code a consumer living beyond the disability. Case managers provided the majority of services in two of the nine ODMH service components: clinical (45%) and access to resources (30%). Thus, the distribution of case manager problem-solving activity was not as evenly distributed as the consumer network data (i.e., df/137; dw/130; dfo/119). Indeed, case managers tended to conduct more doing-for than their informal caregiver counterparts. However, neither group of research participants...
regularly used the problem-solving activity of standing by to admire (a mere 5% of the 628 events could be coded as standing by to admire).

**Interpretation of Aggregate Findings**

The “journey of recovery” that advocates and policymakers have described is represented in the aggregate data by the relatively even distribution of three of the four types of social relations: doing for, doing with, and doing for oneself. Moreover, we speculate that the motivation behind the oscillating movement is not the inevitability of the need to have a clean apartment (e.g., to clean a consumer’s apartment or face the consequences of eviction). Instead, the motivation for recovery is in the doing-for and doing-with activity that produced the outcome of a clean apartment. Still, the direction of a consumer’s recovery, toward interdependence and aware, is shaped by the type of problem-solving activity participants engage in. For example, in looking at the case manager aggregate data (Table 2), it can be inferred that they were engaged in too much doing-for. This, very possibly, produces dependency and keeps consumers from experiencing self-mastery, a foundational recovery principle. Depending on the consumer internal state, some doing-for may be necessary; however, over long periods of time, doing-for would likely undermine recovery goals. Thus, in addition to the ODMH categories of aware and unaware, dependency and interdependency, and the statuses and roles of participants, training in recovery requires a language and theory to help participants identify the kinds of relationships that promote recovery.

Second, the ODMH definitions of aware and unaware may be too global and nonspecific for consumers to recognize. The categories we used to code consumer internal states were taken from a qualitative study of consumers and it may provide a language that is intuitive enough that consumers can easily understand and apply it to themselves. Regardless of how we code or think about the internal world of consumers, the aggregate data suggest that it is important to cross-reference consumer internal states with the everyday, external social relations of problem-solving. By correlating types of problem-solving activity with consumer subjective feeling states, one can determine which type of activity a consumer would likely need. Efforts that combine a consumer’s internal and external world would allow for individualized intervention (Hogarty 2002), a basic principle of recovery.

Third, the data show that most of the problem-solving activities were focused on four ODMH service areas: (1) clinical; (2) access to resources; (3) peer support and (4) work/meaningful activity. The amount of time spent in offering clinical and access to resource services does not suggest the insignificance of the other service categories. Instead, it highlights the need to investigate why so much emphasis was placed on clinical work and access to resources; it may be that these consumers were at a stage of recovery that required intensive services. The research design, and in particular our sampling technique, does not allow us to draw strong conclusions regarding use of services.

Fourth, the aggregate data demonstrate (theorized below) that self-mastery, empowerment, individual treatment, and interdependency are natural components of caregiving relationships. These recovery outcomes need to be fostered. However, the case manager data suggest that professionals may be doing too much doing-for, which could negate self-mastery outcomes. In short, over time, as one tracks either the aggregate or individual problem-solving activity, one would hope to see a balance between the four types of activity. The aggregate data, moreover, show that both informal and formal caregivers do far too little standing by to admire (32 instances out of 628, or a mere 5%). Recognizing and appreciating consumer independent action (i.e., doing for oneself) is a recovery principle that the ODMH model highlights; our data suggest a need to focus future training on this aspect of mental health caregiving.
Toward an Interpersonal Theory of Recovery Problem-Solving Activity

Overall, the data suggest an explanation for why training manuals need a language (and theory) for describing the kinds of interpersonal relationships that consumers naturally engage in when conducting everyday problem-solving. In other words, the data suggest that recovery principles were often present in the 628 problem-solving events that we observed, even though a comprehensive recovery model, its principles and aims, had yet to be disseminated. Below, by drawing on two specific developmental and social psychological theories, we speculate on how the four social relations of problem-solving promote recovery (for a more detailed analysis, see Floersch & Longhofer 2004).

We borrowed from psychodynamic developmental theory and social psychology to understand the Zone of Recovery Relatedness, in particular, the social relations of problem-solving (see Figure 1). Vygotsky theorized that mental development is “the distance between the actual development level, as determined by independent problem solving, and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Wertsch, 1979, p 2). In other words, he correlated the quality of mental development (internal subjective processes) to the quality of social interactions (external relational processes). To illustrate the relationship between the external (social) relations and internal (mental) development, Vygotsky proposed the idea of a “zone of proximal development” (Vygotsky 1978, pp. 84-91). He argued “that higher mental functions appear first on the ‘interpsychological’ (i.e., social) plane and only later on the ‘intrapsychological’ (i.e., individual) plane” (Wertsch, 1979, p. 2). In other words, higher mental functions first appear in the learner's external environment; they are represented by a teacher, parent, or peer who provides help. The person being helped (the learner) internalizes the concepts that he or she hears the helper describe or perform. Vygotsky's conceptualization means that the external environment of problem-solving relationships affects the development of internal recovery concepts and states.

Second, we have found that a developmental approach to self care provides a useful approach to understanding the psychodynamics of problem-solving (Furman, 2001). It is in this way that we understand the four forms of relationship with caregivers. First, there is a “doing for”; here, the recipient of care may often require and even sometimes enjoy being done for. Second, in “doing with,” both caregiver and recipient of care, in varying proportion, share in tasks. Third, there is “standing by to admire,” where the recipient of care is doing some aspect of self-care without assistance. Finally, in “doing for oneself,” the recipient of care has internalized both the caregiving and the satisfaction it brings to such an extent that the caregiver’s bodily presence and emotional investment are no longer necessary (Furman, 2001, p. 55).

According to Vygotsky and Furman, self-mastery (or self-confidence) is a process of converting the external environment into an internal one. In addition, both argue that development does not occur in a strict linear or progressive fashion. In the learning of new concepts and skills there is overlap; this accounts for much of the observed ebb and flow between doing for, doing with, and doing for oneself. While there is movement between self-mastery and relapse, there is always potential for recovery. Vygotsky and Furman show us how an individual’s capacity to learn or re-learn skills depends not only on present relationships but also on past ones. About Vygotsky, Wertsch wrote “rather than restricting his account of mental development to assessing whether or not an individual has a certain ability or concept in its finished form, he was interested in the past history as well as the future potential of mental phenomena” (Wertsch, 1979, p. 2).

“Doing For” Problem-solving Activity

Individuals with severe mental illness report that their feeling, thinking, and actions are often constrained by overwhelming hopelessness, powerlessness and despair. It is in this way that we theorize
that when network members and case managers make a conscious use of “doing for” activity (e.g., in one event, a friend packed and moved consumer belongings and in another, the case manager and home visitor cleaned the consumer’s apartment), they offer to consumers hope and safety. At first these problem-solving activities are entirely external: the consumer, in a dependent relationship with the caregiver, does not take responsibility for thoughts, feelings or actions. They engage instead in a communicative act in which the formal or informal network caregiver names the action and takes appropriate steps to get the job done. When a consumer, for example, sat on the edge of her bed, overwhelmed, and watched her friend pack and move her belongings, the friend named the consumer’s feeling state and its relationship to the task at hand. The friend said, "I'm guessing that maybe you are feeling really overwhelmed or something else like that and it is making it very hard for you to help with the move”. Here, the consumer leans on (or depends on) the hopefulness and initiative of the mental health worker or caregiver.

“Doing With” Problem-solving Activity

In the second type of problem-solving activity, “doing with,” the consumer and caregiver name feelings and thoughts and connect them with actions by standing alongside others. While in this interaction, the consumer still depends on the caregiver, they begin to experience interdependence; although she begins to participate, her feeling, thinking, and action are still dependent on the caregiver. And while the consumer is not yet functioning as an independent problem solver, he or she is developing a sense of what is necessary for independent activity. For example, a friend helped a consumer develop a plan to contact her psychiatrist for more medication. This is a necessary step in the Zone of Recovery Relatedness (ZRR) because it allows the individual to experience interdependence as positive. The desired outcome of this type of problem-solving activity is a sense of pleasure in “doing with” others. By making “doing with” enjoyable, a positive internal feeling is linked with relating; this, we speculate, becomes an internal state that can protect against feelings of alienation and social isolation.

“Doing for Oneself” Problem-solving Activity

With the third type of problem-solving, we speculate that the consumer completes the process of internalizing the hope, safety, trust, and the confidence represented by the caregiver and depends less and less on them. The consumer now enters into relationships with others that are self-determined and independent. In short, they take the problem-solving over from others. The caregiving relationship shifts from the interpersonal to the intrapersonal plane and the transition from regulation-by-other to regulation-by-self is completed. The consumer masters the task.

When individuals internalize the feeling of mastery, the four types of problem-solving activity “go underground” (Wertsch, 1979) and become hidden by the personal sense that “I” produced and mastered the task. In other words, the consumer internalizes his or her caregivers. Thus, the internalization and self-mastery of doing-for-oneself is rooted in but not reducible to the interpersonal experiences of the previous problem-solving activities. While the social relationships of problem-solving continue to exist, they are hidden beneath independent and self-regulated actions.

“Standing by to Admire” Problem-solving Activity

In the fourth problem-solving activity, the consumer adequately names the feeling, thinking, and action needed to achieve goals. As a result, self-confidence grows. The consumer internalizes the safety that the caregiver represents and depends less on the caring. The relationship, though still dependent, moves closer to interdependence. The consumer, in communicating personal awareness with "I did" statements, takes a significant share of responsibility for tasks. The caregiver no longer, or minimally, has to do with or do for and uses his or her admiration of the consumer to produce a feeling of personal
accomplishment. For example, in one event, the case manager remarked that it was “excellent” that the consumer paid attention to his diet. The desired outcome of standing by to admire activity is the consumer internalization of the caregiver’s admiration; this, we speculate, can be used as a consumer internal scaffold for building pride, self-respect, safety and confidence. However, recall that in this study, few caregivers engaged in this activity. Thus, we are left to wonder about the promise of recovery when consumer self-respect and pride, which provide protection from overwhelming feelings of powerlessness and helplessness, are constrained by the caregiver’s inability to stand by and admire consumer growing independence and recovery.

Discussion and Implications

The reality of the lived experience of a helping (case management or informal caregiver) or recovery relationship is that the relationship itself is often hidden from researcher measurement (Davidson 2003). After all, it is difficult to measure something as complex, open, and elusive, as a human relationship; therefore, the influence of interpersonal relations is often overlooked. In our research, we examined the hidden influence of relationships by inferring from the empirical observations of four types of problem-solving activity. This research underscores the importance of “seeing” the motor of change, or recovery, as rooted in safe clinical (or helping) relationships. Safe and trusting relationships are extremely powerful tools because they are portable environments that are transferable to many situations and community settings. These data suggest that case managers (and other caregivers) can create safe environments through intuitive uses of the four types of problem-solving activity. If given the opportunity to understand and utilize the ZRR in relation to other established evidenced-base practices, we believe that caring networks will be capable of helping consumers develop, utilize, and recover a conscious and consistent sense of hope, trust, self-confidence, self-respect and self-mastery. We believe, too, that when consumers are finally given the opportunity to internalize these positive subjective feelings and thoughts, they will improve their ability to produce positive empirical outcomes. Both are evidence of healthier lives.

For those interested in mental health research methods, administration, and policy-making, the ZRR offers a unique method for relating positive outcomes to the relationships producing effects; this would be accomplished by aggregating individual consumer data collected through the use of the ZRR matrix. At present, we have no standardized way of making systems accountable to the use of carefully structured relationships because we have no standardized “relationship” language; in its absence, statewide tracking systems depend on outcomes data only and have little information about how caregiving relationships produce desired outcomes. We think the lack of a shared, non-specialized practice language is the reason. And as demonstrated with the use of the ZRR matrix, relationship work can be empirically observed, aggregated and mapped. Thus, the ZRR provides a language to measure how different communities and community support service systems differentially use caregiving relationships to produce recovery effects.

REFERENCES


**Other Publications of the Research to Date**


**Paper Presentations of the Research to Date**

Floersch, J., Longhofer, J., Kubek, P., & Oswald, L. (2003, November). *Realizing the promise of community support services in the idea of mental health recovery*. Paper presented at the Ohio Department of Mental Health Research Results Briefing 2003: Knowledge to Enhance Quality in Challenging Times, Columbus, OH.
Floersch, J. (2003, May). *Realizing the promise of recovery in practice.* Paper presented at the May National Mental Health Month, sponsored by Ohio Department of Mental Health and Cuyahoga County Community Mental Health Board, Cleveland, OH.

Biological parents of children in foster care have many problems, in addition to the maltreatment of their children. These problems include social isolation (Festinger, 1994), domestic violence, homelessness, as well as alcohol and drug dependency (American Humane Society, 1998; Besinger, Garland, Litrownik, & Landsverk, 1999; Child Welfare League of America, 1998), and other psychiatric problems. The majority of such parents are unmarried mothers, who are poor and rely on cash assistance (Courtney, 1997), such that most biological mothers with children in the child welfare system are also involved in the public welfare system.

What knowledge we have of the problems and the needs of single biological mothers of children in foster care is mostly indirect, and comes from studies that have been done of a variety of other populations, each of which includes such mothers. For example: studies of mothers who receive cash assistance have documented high rates of psychiatric problems, poverty, and child abuse and neglect.

In addition, studies of the impact of welfare reform suggest that, among former welfare recipients who remain unemployed, there are greater concentrations of extreme poverty, substance abuse and mental illness. Single mothers comprise the largest percentage of those affected by welfare reform, and single biological mothers of children that have been placed in foster care comprise a subset of single mothers who are particularly vulnerable and at risk, and who therefore may be particularly hard-hit by welfare reform.

The current study is the first to examine directly the single biological mothers of children in foster care in a post-welfare-reform environment. One major concern about these women is that they may be unable to comply with the State’s welfare-related work requirements and, as a result, they would be sanctioned or fail to find paid employment after their cash assistance benefits were exhausted. This latter point is an important one because such mothers would be at high risk of having no income and, as a result, unable to have their children return home.

**Focus of Current Study**

This study examines the degree to which psychiatric problems are present in a sample of single biological mothers of children in foster care, and explores the relationship of psychiatric problems to these mothers’ ability to attain and retain gainful employment in a post-welfare-reform environment. The study also documents the concrete and material hardships, such as food, housing, and economic hardships, as well as the personal traumas, such as childhood and adult abuse and neglect, which these mothers face. Finally, this study documents the mental health services, including the drug and alcohol treatment services, which these mothers want and/or use.
Methodology

The study uses a cohort design, with the cohort defined as all single biological mothers in Cuyahoga County with children who were placed in foster care for the first time between October 1, 2000 and March 31, 2001. Mothers had to be at least 18 years old, in order to consent to be interviewed. The children of the mothers placed in foster care during the study window had to be 16.5 years old or younger.

The study sample was 173 mothers, representing approximately 75 percent of all mothers who were eligible to participate in the study who could be located. Each was interviewed in person by a trained female interviewer of the same race/ethnicity as the mother. The interview form consisted largely of standardized, reliable and valid measures, as well as questions used in studies of related populations, in order to facilitate and maximize comparisons across studies. No significant differences were found between study participants and the remaining mothers in the subject pool with regard to the following sociodemographic characteristics: mothers’ age at the time of the interview; mothers’ age at the time of her first involvement with the child welfare system; mothers’ ethnicity, and the number and age of mothers’ children.

Major Findings

Mothers Are At High Risk of Mental Illness. Mothers in the sample tended to be young, with an average age of 31. Most were African American (75.7%) and never married (72.3%). Almost half lacked a high school diploma (45.7%) and lived in households in which they were the only adult (49.2%).

One-fourth (24.9%) of the mothers in the study exhibited psychiatric symptomatology in the clinical range--that is, they would more than likely qualify for a formal diagnosis of mental disorder (see Table 1). As can be seen in Table 2, clinical level of psychiatric symptomatology was significantly correlated with a wide variety of variables representing risk factors to these mothers. We also found substantial incidence rates of alcohol and drug use, as indicated by mothers reporting that they had used alcohol abuse treatment services (19.7%) or drug abuse treatment services (32.9%) in the past (see Figures 1 and 2).

However, we estimate these figures are low. We believe that mothers under-reported all conditions or circumstances that could have jeopardized their chances for reunification with their children. Evidence also points to the possibility that at least one serious mental illness--Borderline Personality Disorder--may be more common among these mothers than in the population as a whole.

Psychiatric Symptoms Are Related to Income Indirectly. Mothers’ level of psychiatric symptomatology is not directly related either to their employment status (working full-time vs. unemployed or working part-time) or to the level of their income relative to need, after controlling for other factors with which employment has been found to be related. However, we did find that employed mothers with high levels of psychiatric symptomatology made significantly less money at their jobs than did employed mothers with lower levels of psychiatric symptomatology (see Figure 3). Thus, while having psychiatric problems does not seem to impede employment per se, it does seem to impact the kind of employment a mother is able to secure--that is, the quality of her job and the salary with which it is associated.

Mothers Are Not Getting Needed Mental Health and Substance Abuse Services. Two-thirds of mothers with clinical levels of psychiatric symptomatology report having received mental health services at any point during their lifetime (see Table 3). That figure drops to 43 percent of “cases” reporting having received services during the 12 months prior to being interviewed, and to 38 percent reporting...
receiving services at the time of being interviewed. Thus it is clear that basic mental health and substance abuse service needs are not being met currently for a significant proportion of mothers in the sample.

Mothers Are Impoverished. Biological mothers of children in foster care are impoverished, whether they are working, receiving welfare, both or neither. A substantial proportion of mothers in this study (85.1%) were estimated to be living below the poverty threshold (see Table 4). What is more, 58.4 percent were estimated as living in “extreme” poverty, that is, at or below half the poverty threshold. Two-thirds of the mothers who were employed full-time were estimated to be living in poverty. Impoverishment is manifested through high levels of material hardship, such as food insecurity, inadequate housing and homelessness: almost half of the mothers reported they were facing one or more severe material hardships at the time of being interviewed.

Mothers Exhibit Multiple and Severe Barriers to Employment. Mothers in the study have multiple barriers to employment, including a lack of education, low job skills, and limited work experience (see Table 5). On average, mothers reported approximately three barriers to employment. The single barrier cited by the greatest number of mothers was a lack of transportation, which has far-reaching implications, given that the majority of jobs for which these mothers would qualify exist in the suburbs of Cleveland, and not within the city where the majority of the mothers reside.

Mothers Are at High Risk of Parenting Problems. Several factors suggest that the mothers in this study were poorly prepared for the role and responsibilities of parenthood. Substantial proportions of the sample were characterized by: childhood abuse and/or neglect--31.8 percent were estimated to have experienced moderate to extreme emotional abuse; childhood experience of “broken” homes--71.1 percent report living with both of their biological parents either part or none of the time prior to age 18; current physical abuse/domestic violence at the hands of a husband or partner--26.6 percent report having been abused during the year prior to being interviewed; and having a significant health problem--20.8 percent cited having a physical health problem that interfered with their daily activity. Over 60 percent of mothers gave birth to their first child while still a teenager and most (72.3%) have never been married. Other studies have found a relationship between each of these factors, as well as severe poverty and significant material hardship, and an increased likelihood of mothers’ abusing and/or neglecting their own children.

Conclusions and Recommendations

We draw several broad conclusions with respect to the mental health needs of single biological mothers of children in foster care. First, a significant minority have high levels of psychiatric symptomatology and substance use problems. We estimate these percentages are higher in actuality than the figures we report.

Future research with this population should use research-based psychiatric diagnoses to help clarify: the proportion of mothers with mental disorders; the type of disorders mothers have; and, in particular, the relationship between a diagnosis of Major Depression (which has emerged as an important diagnosis in prior research), Borderline Personality Disorder (which we suspect is also common in this population), and mothers’ work and income relative to need. Given the difficulty of obtaining accurate information from this population, however, other measurement strategies, such as triangulation of data from multiple available measures, should also be explored.

Second, single biological mothers of children in foster care have psychiatric and substance abuse problems that are intertwined with extreme poverty and multiple and severe barriers to employment. Future efforts to help these mothers to work or to recover must be based on programmatic approaches in which knowledge of mental health problems and their successful treatment, amelioration of barriers to
employment, and child maltreatment prevention are integrated. Future research with this population should be focused on the application and testing of the effectiveness of such integrated programs.

Third, the majority of single biological mothers of children in foster care with high levels of psychiatric symptomatology do not receive the mental health treatment services they need. This is reflective of the national trend, in which half of the persons with mental illness in the United States do not receive treatment (Surgeon General, 1999). Current evidence suggests that perhaps an even greater percentage do not receive needed treatment in Cuyahoga County due to the constraints under which the local mental health board, CCCMHB, is operating. The reasons mothers cite for failing to receive services are in fact quite comparable to the reasons cited by other Ohioans (Ohio Mental Health Commission, 2001).

Future research with this population should explore more precisely than we were able to do in this study the specific mental health and substance use treatments mothers have used, and the evidence-based treatments they needed but did not receive. Specific questions relating to: appropriate access to mental health and recovery-related services, including access to vocational rehabilitation, employment, health insurance, and housing; provision of evidence-based and culturally appropriate services; and system redesign are especially important.

Fourth, none of the service systems with which single biological mothers of children in foster care are involved has responsibility for treating their problems in relation to their impoverished condition and family circumstances. Each system responds to mothers’ mental health, including substance use, problems within the context of its primary mandate--for example, child protection or maternal employment. In light of the existing child welfare and welfare policy proscriptions under which single biological mothers of children in foster care may live, the limited employment opportunities for unskilled and semi-skilled workers in Cuyahoga County, and the constraints of the child welfare, welfare, mental health, and alcohol and drug addiction services systems of which these mothers are a part, it is highly unlikely that mothers with high levels of psychiatric symptoms and/or substance abuse problems will be able to work consistently or to be reunified with their children.

The re-examination of welfare-related policies pertaining to extensions of cash assistance for those with serious mental health as well as other problems that is currently underway in Cuyahoga County (Sandra Bizell, personal communication, December 18, 2002) is encouraging.
Table 1. Mothers’ Psychiatric Symptomatology

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current study sample</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSI – general severity index</td>
<td>0.51</td>
<td>0.28</td>
<td>0.00</td>
<td>0.57</td>
<td>0.00</td>
<td>3.56</td>
<td>0.97</td>
</tr>
<tr>
<td>BSI – depression subscale</td>
<td>0.56</td>
<td>0.33</td>
<td>0.00</td>
<td>0.77</td>
<td>0.00</td>
<td>3.83</td>
<td>0.85</td>
</tr>
<tr>
<td><strong>Comparison sample</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSI – general severity index</td>
<td>0.30</td>
<td></td>
<td></td>
<td></td>
<td>0.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSI – depression subscale</td>
<td>0.28</td>
<td></td>
<td></td>
<td></td>
<td>0.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Comparison sample</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSI – general severity index</td>
<td>1.32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>BSI – depression subscale</td>
<td>1.80</td>
<td></td>
<td></td>
<td></td>
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<td>1.08</td>
<td></td>
</tr>
</tbody>
</table>

Mothers assessed as being clinical “cases”

<table>
<thead>
<tr>
<th></th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>42</td>
<td>24.9</td>
</tr>
</tbody>
</table>

*Note.* This table reports on the Brief Symptom Inventory (Derogatis, 1992). For both the General Severity Index and Depression Subscale, items are measured as follows: 0=Not At All; 1=A Little; 2=Moderately; 3=Quite A Bit; 4=Extremely.

*a* N=169; 3 cases were dropped from all regression analyses due to questionable validity of the data, 1 case was dropped because subject was the lone Hispanic in the sample, and race was used as a predictor variable.

*b* 974 community-dwelling non-patient males and females, mean age = 46. Females=49.3%.

*c* 1002 male and female psychiatric outpatients, mean age=31. Females=57.6%.

*d* An area T-score greater than 63 on the General Severity Index is indicative of clinical caseness (see Derogatis, 1992 for definition of area T-score and details on computation of “caseness.”).

Figure 1. Use of drug use, mental health and alcohol use services.
Table 2. Bivariate Relationships Between Clinical “Caseness” and Select Measures

<table>
<thead>
<tr>
<th>Continuous measures</th>
<th>t**, t^<strong>, t</strong>*</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childhood Trauma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Abuse</td>
<td><strong>-5.43</strong></td>
<td>“Cases” experienced more childhood emotional abuse</td>
</tr>
<tr>
<td>Physical abuse</td>
<td><strong>-2.91</strong></td>
<td>“Cases” experienced more childhood physical abuse</td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>^<strong>-2.58</strong></td>
<td>“Cases” experienced more childhood sexual abuse</td>
</tr>
<tr>
<td>Emotional neglect</td>
<td><strong>-4.30</strong></td>
<td>“Cases” experienced more childhood emotional neglect</td>
</tr>
<tr>
<td>Physical neglect</td>
<td>-0.70</td>
<td></td>
</tr>
<tr>
<td>Parenting stress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parenting Stress</td>
<td><strong>-4.11</strong></td>
<td>“Cases” experienced more parenting stress</td>
</tr>
<tr>
<td>Difficult child</td>
<td><strong>-3.72</strong></td>
<td>“Cases” experienced more parenting stress</td>
</tr>
<tr>
<td>Total number of material hardships</td>
<td><strong>-4.89</strong></td>
<td>“Cases” experienced greater numbers of hardships</td>
</tr>
<tr>
<td>Total Number of barriers to employment</td>
<td><strong>-2.76</strong></td>
<td>“Cases” experienced greater numbers of barriers</td>
</tr>
<tr>
<td>Total number of functional limitations</td>
<td>^**-.70</td>
<td>“Cases” experienced greater numbers of limitations</td>
</tr>
<tr>
<td>Social Support</td>
<td><strong>4.01</strong></td>
<td>“Cases” experienced less social support</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Categorical measures</th>
<th>χ²</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of one or more material hardship</td>
<td><strong>19.41</strong></td>
<td>More “cases” report ≥ 1 hardship</td>
</tr>
<tr>
<td>Race</td>
<td><strong>9.53</strong></td>
<td>More Whites than Blacks are “cases”</td>
</tr>
<tr>
<td>Type of barrier to employment</td>
<td><strong>10.41</strong></td>
<td>More “cases” have barrier</td>
</tr>
<tr>
<td>Physical abuse/domestic violence</td>
<td>3.23</td>
<td>More “cases” have barrier</td>
</tr>
<tr>
<td>Separated from children ≥ 1 month</td>
<td>^**4.98</td>
<td>More “cases” separated from children</td>
</tr>
<tr>
<td>Husband/boyfriend is father of children</td>
<td>3.19</td>
<td></td>
</tr>
</tbody>
</table>

Note. Unless otherwise specified, all categorical variables were coded 0,1 with 1 indicating the presence of the item or condition mentioned.

*aReports scores for the 5 scales that comprise the Childhood Trauma Questionnaire (Bernstein & Fink, 1998). 1=Never True; 2=Rarely True; 3=Sometimes True; 4=Often True and 5=Very Often True.  
*bReports on Parenting Stress and Difficult Child subscales of Parenting Stress Index – Short Form (Abidin, 1995). The total subscale scores range from 1-5. 1=Strongly Disagree; 2=Disagree; 3=Not Sure; 4=Agree; and 5=Strongly Agree. N = 137; not applicable to cases with children <= 30 days old.  
*cTheoretical range: 0-4.  
*dTheoretical range: 0-10.  
*eTheoretical range: 0-5.  
*fReports on the Social Support Index (SSI; McCubbin, Patterson & Glynn, 1996). Items are measured as follows: 0=Strongly Disagree; 1=Disagree; 2=Neutral; 3=Agree; and 4=Strongly Agree. Some items were reverse-scored so that higher numbers consistently reflect greater social support.  
*g0=Black; 1=White.  
*hAll 10 barriers to employment listed in Table 5 were tested. Only those for which a significant difference was found were reported.  
*i1=Husband/boyfriend is father of all children; 2=Husband/boyfriend is father of some children; Husband/boyfriend is father of none of the children.  
^Not significant after Bonferroni-type correction, dividing α by number of the tests performed (e.g., .05/11). **New critical p value = .0046.  
~Not significant after Bonferroni-type correction, dividing α by number of tests performed (e.g., .05/14). New critical p value = .0036.
Figure 2. Mothers’ use of multiple services.

Figure 3. Interaction effect of psychiatric symptomatology with employment status on income relative to need.
### Table 3. Mothers’ Use of Mental Health Services as a Psychiatric Symptomatology

<table>
<thead>
<tr>
<th></th>
<th>Mothers receiving mental health services</th>
<th>Number of mothers receiving services that are clinical “cases”&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Percentage of mothers receiving services that are clinical “cases”</th>
<th>Percentage of total clinical “cases” receiving services&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of mothers ever receiving:</td>
<td>46</td>
<td>26.6</td>
<td>28</td>
<td>60.9</td>
</tr>
<tr>
<td>Number of mothers receiving in past 12 months:</td>
<td>32</td>
<td>18.5</td>
<td>18</td>
<td>56.3</td>
</tr>
<tr>
<td>Number of mothers receiving at time of interview:</td>
<td>21</td>
<td>12.1</td>
<td>16</td>
<td>76.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Number of mothers not receiving desired treatment in past 12 months</th>
<th>Number of mothers not receiving desired services that are clinical “cases”</th>
<th>Percentage of mothers not receiving desired services that are clinical “cases”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19</td>
<td>11.0</td>
<td>12</td>
</tr>
</tbody>
</table>

<sup>Note.</sup> All statistics are based on N = 173 mothers, unless specified otherwise; category percentiles that total less than 100% are due to missing data. The measure of psychiatric symptomatology reported on in this table is the General Severity Index (GSI).

<sup>a</sup>An area T-score greater than 63 on the General Severity Index is indicative of clinical “caseness” (see Derogatis, 1992 for definition of area T-score and details on computation of “caseness”).

<sup>b</sup>Percentages are based on total number of mothers deemed clinical “cases” (N = 42).
Table 4. Mothers’ Total Income and Economic Impoverishment

<table>
<thead>
<tr>
<th>Total personal income from all sources in previous month&lt;sup&gt;a&lt;/sup&gt;</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>39</td>
<td>22.5</td>
</tr>
<tr>
<td>&lt;$400</td>
<td>33</td>
<td>19.1</td>
</tr>
<tr>
<td>$400 - $999</td>
<td>63</td>
<td>36.4</td>
</tr>
<tr>
<td>$1,000 - $1,900</td>
<td>25</td>
<td>14.5</td>
</tr>
<tr>
<td>&gt; $2,000</td>
<td>7</td>
<td>4.0</td>
</tr>
<tr>
<td>Mothers estimated below poverty threshold&lt;sup&gt;b&lt;/sup&gt;</td>
<td>141</td>
<td>81.5</td>
</tr>
<tr>
<td>Mothers estimated living in “extreme poverty”&lt;sup&gt;c&lt;/sup&gt;</td>
<td>101</td>
<td>58.4</td>
</tr>
<tr>
<td>Adequacy of total household income&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all difficult</td>
<td>45</td>
<td>26.0</td>
</tr>
<tr>
<td>A little difficult</td>
<td>43</td>
<td>24.9</td>
</tr>
<tr>
<td>Somewhat difficult</td>
<td>23</td>
<td>13.3</td>
</tr>
<tr>
<td>Very difficult</td>
<td>40</td>
<td>23.1</td>
</tr>
<tr>
<td>Extremely difficult</td>
<td>22</td>
<td>12.7</td>
</tr>
<tr>
<td>Income relative to need&lt;sup&gt;e&lt;/sup&gt;</td>
<td>Mean</td>
<td>Median</td>
</tr>
<tr>
<td>6.37</td>
<td>5.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Note. All statistics are based on N = 173 mothers, unless specified otherwise; category percentiles that total less than 100% are due to missing data.

<sup>a</sup>Mothers were asked to identify all sources of income from the following list: paid employment; TANF/OWF; SSI; WIC; PRC; food stamps; financial assistance from family/friends; financial support from spouse/partner; child support/alimony; public housing subsidy; utility assistance; workers compensation; foster child payments; rent from tenant/border; unemployment insurance; other.  
<sup>b</sup>Based on U.S. Census Bureau Poverty Guidelines for 2001.  
<sup>c</sup>Computed as per above - see Note b - but using half the dollar amounts of the Census Bureau's guidelines.  
<sup>d</sup>Mother were asked: "Including income from all sources, how difficult is it for you to live on your total household income right now?" Responses ranged from "Not at all difficult" to "Extremely difficult."  
<sup>e</sup>Average total daily income per dependent, defined as the mother and all her biological and/or adopted children < 18 who are not in permanent custody of the state.
Table 5. Mothers Citing Barriers to Employment by Study

<table>
<thead>
<tr>
<th></th>
<th>Current Study</th>
<th>W.E.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Transportation barrier*</td>
<td>129</td>
<td>74.6</td>
</tr>
<tr>
<td>Education barrierb*</td>
<td>79</td>
<td>45.7</td>
</tr>
<tr>
<td>Job skills barrierc*</td>
<td>60</td>
<td>34.7</td>
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<tr>
<td>Special needs barrierd</td>
<td>53</td>
<td>30.6</td>
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<tr>
<td>Alcohol/drug use barrierc*</td>
<td>51</td>
<td>29.5</td>
</tr>
<tr>
<td>Physical abuse/domestic violence barrierg</td>
<td>46</td>
<td>26.6</td>
</tr>
<tr>
<td>Perceived discrimination barrierb</td>
<td>28</td>
<td>16.2</td>
</tr>
<tr>
<td>Physical health barrierl</td>
<td>26</td>
<td>15.0</td>
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<tr>
<td>Work experience barrierj</td>
<td>25</td>
<td>14.5</td>
</tr>
<tr>
<td>Workplace norms barrierk</td>
<td>14</td>
<td>8.1</td>
</tr>
</tbody>
</table>

Note. A Comparison of the current study sample to the Women's Employment Study sample (W.E.S.; Danziger et al., 2000). N for current study = 173; N for W.E.S. = 728. “Employment” for the current study is defined as ≥ 30 hours per week paid employment; "employment" for the W.E.S. is defined as ≥ 20 hours per week paid employment. Only percentages of the sample population were available for the W.E.S.; all N's for that study that appear in this table were computed from those percentages and based on the total sample of 728, and may not reflect the exact N's for that study.

*Barriers marked with an * are operationalized identically in both studies.

aLack of a valid driver's license or regular access to a car, or both.
bLess than a high school diploma/GED.
cFewer than 4 of 9 basic job skills.
dFor current study: at least one child in foster care with special needs, defined as a limiting physical, behavioral or mental health condition; for W.E.S., at least one special needs child (not necessarily in foster care), as defined above.
eFor current study: mother reports receiving treatment for either alcohol or drug use in past year; for W.E.S.: score in range of clinical caseness on either Alcohol Dependence or Drug Dependence subscale of the Composite International Diagnostic Interview used in the National Co-morbidity Survey (Kessler et al., 1994).
fPercent equals the sum of alcohol abusers (2.7%) and drug abusers (3.3%); the N is not given, as it is impossible to compute the number of discrete individuals represented by these summed percentages.
gSevere physical abuse from spouse/partner in past year.
hFor current study: mother perceives that, at some time, she was refused a job, fired or not promoted because of race, gender, welfare use or criminal record; for W.E.S.: women who reported ≥ 4 total instances of being refused a job or not promoted because of race, gender or welfare use or of being verbally or sexually harassed at work.
iHealth self-rating as fair or poor, and score in lowest age-specific quartile on Ware Physical Functioning Scale (Ware et al., 1993).
jkPaid employment in fewer than 20% of years since turning 18.
lEndorsed fewer than 5 of 9 fundamental workplace norms.
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FROM TREATMENT TO PARTNERSHIP:
A QUALITATIVE STUDY OF SERVICE PLANNING
FOR RECOVERY FROM SEVERE MENTAL ILLNESS

Columbiana Mental Health and Recovery Services Board

William D. Diorio, PhD, LISW

This qualitative research study documents and explores the perceptions and experiences of individuals with severe mental illness in interaction with professional service providers during a transition from conventional psychiatric “treatment planning” to “consumer-driven” planning for recovery in a rural community mental health system in Ohio. The study describes the plight of the case manager in practice with adults who suffer from severe and persistent mental illness, along with the primary and secondary effects of poverty, social stigma, and the “sick role” as constructed by psychiatric “treatment” and maintained through ideologies of case management service delivery. Consumer and practitioner perceptions of conventional “treatment planning” are compared and contrasted, revealing an institutional pattern of isolation and exclusion of consumers from full, active, informed and knowledgeable participation in the service planning process. Finally, how and why a majority of thirty adults in the research sample were able to begin or accelerate their recovery in the community is conceptualized as a “Resilience Model of Recovery” from severe and persistent mental illness.

Recovery Systems Development Grant

The purpose of the Recovery Systems Development Grant in Columbiana County was to align practice and policy with the Guiding Principles of Recovery, as developed and advocated by the Ohio Department of Mental Health for community mental health systems throughout the State (Baumgarner & Chaffee, 1999). Three goals were established to guide the initiatives and activities of the Project in Columbiana County, as administered by the Columbiana Mental Health and Recovery Services Board and implemented through the Columbiana Counseling Center: (1) to cultivate a “recovery friendly” system, within the local mental health system and in the community as a whole; (2) to offer and ensure opportunities for consumers to assume active leadership roles in the implementation of the “recovery philosophy” in the community mental health system, and (3) to ensure that consumers were free and encouraged to become the “driving forces” in their personal recovery from severe and persistent mental illness (Chaffee, 2003).

Through an Initial Study (2000), qualitative research interviews with consumers and service providers were conducted to document and evaluate the process of psychiatric “treatment planning” that was being used by case managers and therapists with adult consumers involved in service delivery by the community mental health agency. The purpose of this initial field work was to establish “grounded knowledge” in support of the agency's proposed conversion of psychiatric “treatment planning” to recovery planning that is directed and controlled by consumers in true partnership with case managers, therapists, supervisors, psychiatrists and family members. Toward this end, problems and barriers in service planning for recovery were identified through the initial research as practical targets for education, training, or specific changes in practice or policy within the system through the strategic activities of the Recovery Systems Development Grant. A Final Study (2002 to present) is being completed, with three aims: (1) to document and evaluate the process and outcomes of the community mental health system’s attempt to conceptualize, design and implement a pilot approach to service planning for “recovery” from severe mental illness involving consumers, case managers, therapists and other service providers, (2) to document the process, progress, and experiences of a sample of adults in their attempts to recover from...
severe and persistent mental illness in the community over a five-year period and (3) to independently evaluate the outcomes of the formal and informal activities of the Recovery Systems Development Grant in Columbiana County. Some of the preliminary, but significant, qualitative findings are reported here.

The Qualitative Research Questions

**Consumers.** A semi-structured interview guide was used during the Initial Study (May-December, 2000) with a sample of consumers \((N = 17)\) and during the Final Study (May, 2002 to present) with the same sample of consumers, along with thirteen (13) others who did not participate in interviews during the Initial Study.

1. How does a consumer perceive his or her mental illness?
2. What does a consumer believe about the possibility of recovery from his or her mental illness?
3. How does a consumer perceive his or her relationship with a provider?
4. How does a consumer perceive the process of treatment planning with a provider?
   A. What is the purpose of treatment planning?
   B. How does a consumer participate in treatment planning?
   C. What goals are developed in a treatment plan?
   D. How do consumers use treatment plans?
   E. What are the barriers or problems in treatment planning with a provider?
5. To what extent is a consumer integrated in the community?
   A. How dependent is the consumer in the community?
   B. How independent is the consumer in the community?
   C. How interdependent is the consumer in the community?
6. What does a consumer need in order to recover from his or her mental illness?

**Providers.** A semi-structured interview guide was used during the Initial Study (May-December, 2000) with a sample of case managers \((N = 14)\) and during the Final Study (May, 2002 to present) with (a) the same case managers who participated in the Initial Study and (b) other case managers who were employed by the community mental health agency since December, 2000 \((N = 15)\). In addition, ten (10) adult psychotherapists who did not participate in interviews during the Initial Study were included in interviews with the final sample of providers.

1. How does a provider perceive the mental illness of a consumer?
2. What does a provider believe about the possibility of a consumer’s recovery from his or her mental illness?
3. How does a provider perceive his or relationship with a consumer?
4. How does a provider perceive the process of treatment planning with a consumer?
   A. What is the purpose of treatment planning?
   B. How does a provider participate in treatment planning?
   C. What goals are developed in a treatment plan?
   D. How do providers use treatment plans?
   E. What are the barriers or problems in treatment planning with consumers?
5. To what extent is a consumer integrated in the community?
   A. How dependent is a consumer in the community?
   B. How independent is a consumer in the community?
   C. How interdependent is a consumer in the community?
6. What does a consumer need in order to recover from his or her mental illness?
For the purpose of the Final Study only (May, 2002 to present), an additional semi-structured interview guide was developed for use in separate interviews with fifteen consumers ($N = 15$), the majority of whom participated as part of the original sample of consumers ($N = 17$) during the Initial and Final Studies. The purpose of separate interviews was to document and explore consumer perceptions of the activities and processes of change in the community mental health system in Columbiana County, through the Recovery Systems Development Grant, from 1999 to 2003, as well as the meaning of those experiences for those actively and intimately involved in the Project's initiatives.

1. What does it mean to a consumer to be, or have been, involved in activities, volunteer service, or work in the community mental health system?
2. What does it mean to a consumer to have been involved in the Recovery Systems Development Grant in Columbiana County?
3. What change does a consumer perceive in the community mental health system, as a result of the Recovery Systems Development Grant?
4. What change does a consumer perceive in the community, as a result of the Recovery Systems Development Grant?

The study used a hermeneutic approach to data analysis (Palmer, 1969; Packer, 1985; Polkinghorne, 1988; Rabinow & Sullivan, 1979, 1987; Shapiro & Sica, 1984). The construction of a theme through hermeneutic inquiry is based upon the discovery of a high degree of intersubjective “agreement” among consumers and providers, respectively, with regard to certain aspects or dimensions of their experiences, especially their involvement in the process of treatment and recovery planning and the activities of the Recovery Systems Development Grant (Diorio, 2002). Audio tape recordings and transcripts of interviews revealed inter-related as well as conceptually distinct themes, or categories of meaning, that were “embedded” in consumer and provider perceptions.

One consumer, at least, who was involved in a helping relationship with each case manager and therapist, was included in the sample in order to (a) study the nature of the helping relationship between a consumer and each adult service provider, (b) compare respective perceptions of the consumer’s mental illness, (c) understand the consumer's experience or progress in “recovery,” (d) document the nature and process of “treatment planning” in the relationship between a consumer and provider and (e) evaluate the extent of a consumer’s social integration in the community (Diorio, 2002).

**Rigor**

“The openly subjective character of the qualitative method may invite charges of ‘researcher bias’ and ‘lack of rigor,’” the late Professor Howard Goldstein observed (1991).

Bias in some form is evident in all forms of social research; the researcher's preconceptions, personal aims and values are bound to be influential, as they are often the compelling motives for undertaking the research project in the first place. Because of these subjective elements, the question of *rigor* in qualitative research is treated very seriously. Vigilant reflection is required as the researcher must be alert to the extent to which his or her perceptions and interpretations reasonably correspond with what is actually going on ‘out there’ (p. 105).

As previously reported (Diorio, 2002), the sample of consumers was carefully constructed over time in order to avoid what Miles and Huberman (1984) warn could be a “fieldworker’s tendency to rely too much on articulate, insightful, attractive, and intellectually responsive informants,” leading to an “overweighting” of data gathered from such subjects. Indeed, some of the consumers who were interviewed were easily contacted and very willing, if not eager, to participate in the Initial and Final...
Studies. Other consumers who participated in the qualitative interviews were relatively socially isolated, distrustful, and disengaged from active or frequent interaction with case managers, therapists or both. Second, the sample contains a balance of men and women, as well as individuals with different diagnoses that would indicate varying degrees of severity of mental illness and other complications of mental and social functioning so characteristic of schizophrenia, bipolar disorder, personality disorders, post-traumatic stress disorder and addiction. The “voices” of these individuals, however “disengaged” or muted by severe and persistent illness, were documented and balanced against the perceptions of more articulate and cooperative consumers, in order to construct a representative qualitative sample of adults being served by the community mental health system.

Finally, the internal and external validity of the principal investigator’s interpretation of major themes was “tested” through a direct report of the findings of the Initial and Final Studies to consumers, case managers, therapists, administrators and family members in Columbiana County at the end of 2000 and 2002, respectively. In addition, presentations of the preliminary research findings were delivered at professional conferences and meetings throughout Ohio in 2003, including the Annual Meeting of Ohio Advocates for Mental Health.

The Plight of the Case Manager

Ideology and Role Construction. Heaney and Burke (2000) surveyed 370 case managers who were employed by community mental health agencies in Franklin, Lucas, Montgomery and Summit Counties in Ohio. Case managers in their sample revealed either a “maintenance” or a “growth” ideology in their approaches to helping people with severe mental illness in the community. “Ideologies of care are systems of beliefs about the importance of particular goals and activities in case management practice” (Heaney & Burke, 2000, p. 408).

...“Growth” encompasses...concerns about clients' personal and social development. These... reflect beliefs among case managers about the importance of focusing on a range of issues related to consumers’ “quality of life” and recovery. By contrast, a “Maintenance” ideology of care embraces...beliefs that case managers ought to focus on making sure that adults with SMI are safe from harm---ensuring that clients pose no danger to themselves or others and are not at risk of victimization from others (Heaney & Burke, 2000, p. 411).

A significant theme that emerged from qualitative interviews with case managers and therapists in Columbiana County, as internally validated by interviews with some consumers, was the predominance of a “maintenance” ideology among providers, especially case managers. In addition, a significant number of case managers and many adult therapists struggled to reconcile conflicts between psychiatric “treatment ideology” and the “ideology of recovery,” especially its construction of a “recovery,” not “sick” role, for individuals with severe mental illness involved in “treatment” and case management service delivery (Weinberg, 2001).

First, a majority of case managers in Columbiana County were experiencing considerable “ambiguity in the case management role” (Heaney & Burke, 2000). While rooted in “maintenance” ideology and its correspondent approach to case management practice, a significant number of case managers wanted to do more for consumers. These case managers believe that they should be doing more for consumers. And, these case managers believe that consumers needed them to do more in order to help consumers to “grow.” However, this ambiguity manifested itself in significant uncertainty for many case managers about their role in the process of promoting or supporting a consumer's recovery. Second, while a significant number of case managers and therapists struggled to reconcile this ambiguity, some consumers in the sample were struggling with the same constraints, as practically reflected and translated.
in the social construction of the “sick role” (Parsons, 1949). Indeed, a significant sub-group of consumers in the research sample—especially those in leadership positions—appeared to “resist” the prescriptions of the “sick role,” as they struggled to achieve specific milestones in their lives: personal responsibility for their illness, autonomy in decision-making regarding their services, collaboration and partnership with their professional helpers, effective psychiatric treatment, and, for some, freedom from the community mental health system itself.

Maintenance and Enabling: Poverty, Responsibility and Recovery. A majority of the individuals in the research sample were poor and some of them, arguably, were among the poorest of the poor in Columbiana County. Based on qualitative interviews with providers, a majority of the consumers who are served by the agency were said to experience a high degree of poverty and a mild degree of mental illness, but require mental health interventions of “low medical necessity.” These are consumers in poverty, with poverty-related problems and stresses of daily living that precipitate some degree of acute or recurrent “emotional distress,” but not of a sufficient nature or degree to legitimately justify a diagnosis of severe mental illness, despite the assignment of a diagnosis. These consumers are perceived as needing, wanting, and primarily using the community mental health system to “get by” or “survive” the effects and consequences poverty on daily basis. They expect or demand help from case managers with poverty-related problems on a daily basis, including transportation and access to medical care. They tend to choose and “cling to” the “sick role” or “victim role” in order to cope with their circumstances or to avoid personal responsibility. They “use” their categorization as Severely Mentally Disabled (SMD) or other psychiatric diagnoses as a “passport” to other social welfare benefits and services. These consumers perceive “recovery” from mental illness as irrelevant to their purpose for involvement in service delivery: “Recovery from what?”

A smaller sub-group of consumers experience a high degree of poverty and a moderate degree of mental illness, and require mental health interventions of “moderate medical necessity.” These are consumers in poverty with poverty-related problems and stresses of daily living who have a legitimate diagnosis of severe mental illness, with moderate symptoms, who need, want, and use the community mental health system to “get by” or “survive” their poverty and mental illness on a daily basis. For these consumers, “recovery” from mental illness is relevant to their purpose for involvement in service delivery, but not desired: “I like things the way they are.”

The comparatively smallest sub-group of consumers were described as experiencing a high degree of poverty and a severe degree of mental illness, and requiring mental health interventions of “high medical necessity.” These are consumers in poverty, with poverty-related problems and stresses of daily living, who display severe symptoms of mental illness. These individuals do not desire “treatment,” or “stability,” nor any form of help or service from the community mental health system in order to “get by” or “survive” their poverty and severe mental illness on a daily basis. These consumers do not expect or demand help from case managers with poverty-related problems or severe symptoms of mental illness. For these consumers, “recovery” from mental illness is not relevant to the purpose of their involvement in service delivery either: “Recovery from what?”

Consumers from all three categories make high, complex, and seemingly relentless demands upon case managers for interventions, services and supports, in one form or another, in Columbiana County. Under such pressures and faced with limited resources to ease the profound poverty experienced by individuals with varying degrees of mental illness, case managers tend to capitulate or acquiesce to consumer demands, avoidance of responsibility, dependence, passivity and submissiveness in the process of day-to-day service delivery. And, case managers tend to “maintain” and “enable” consumers who have no interest in, or desire for, “recovery” from their mental illness, including those who “like things the way they are” and those who consistently decline or reject offers of help or other mental health interventions in spite of severe deficits and vulnerabilities in mental functioning.
As a result, what can and should be expected from case managers in implementing the “Guiding Principles of Recovery” in practice with three qualitatively distinguishable groups of consumers must respect and accommodate the de facto mission of community mental health service delivery in Columbiana County: serving the poor. Second, attempts by case managers to convert psychiatric “treatment” plans to client-centered, “consumer-driven” “recovery” plans are often obstructed, seemingly intractably, by clients who are uninterested, reluctant, and sometimes actively resistant to “taking the wheel.”

“I'm Tired of Being IT!”

Case managers believe that they endure the highest multiple task demands of all providers who serve adults with severe mental illness in Columbiana County and that such demands are overwhelming, mentally and physically, for vast majority of the case managers who were interviewed in the study. The majority of case managers report that they experience a high and sometimes debilitating level of personal stress. Second, case managers have the lowest salaries of the primary direct service providers in the community mental health system in Columbiana County. Third, while case managers bring the lowest level of knowledge and understanding of the cognitive “work of recovery” to their relationships with consumers, compared to therapists, case managers are assigned the primary responsibility for the majority of psychiatric “treatment planning” with consumers, including those with severe symptoms of major mental illness. Fourth, case managers are expected to maintain levels of “productivity” that assure a minimum number of billable hours of service to consumers that are of justifiable “medical necessity” on a monthly basis, in order to assure timely and adequate funding of the agency through Medicaid reimbursement. Finally, case managers must maintain communication with therapists and other agency service providers, as well as family members and other practitioners and service providers in the community.

Perceptions of “Treatment Plans” and Service Planning

Based on qualitative interviews that were conducted during the Initial Study (2000), a significant number of consumers of the community mental health agency did not know or understand “treatment planning” (Diorio, 2002). They saw the “treatment plan” as a “piece of paper” that they periodically “had to sign.” They did not give it much thought; they were not invested in it, nor were they “interested” in being a part the processes supporting it. Some clients admitted they were reluctant to be involved in setting goals and working toward them, because it would put them “at risk,” literally, of “getting better” and subsequently losing their Social Security disability benefits, as well as their eligibility for services from the community mental health agency itself. Consequently, in the sample, there were individuals who perceived the “treatment plan” as “something that had to be done,” a “piece of paper that had to be filled out.”

In contrast, there were a significant number of consumers who “wanted more” from their “treatment plan” and planning process itself. They clearly knew the purpose and understood what was supposed to occur in the “treatment planning process,” but perceived it, still, as a “piece of paper” that was produced and managed by a case manager, and sometimes their therapist, that “had to be signed.” Clearly, this planning process alienated some individuals with severe mental illness in 2000. These clients wanted it to be “more than a piece of paper.” They wanted their plan to be a “blueprint” or “a map,” revealing “the path” that they had to “travel” in their recovery. In short, clients held markedly different perspectives of “treatment plans” and the “treatment planning” process when interviewed in 2000.

In contrast, case managers believed that daily “job pressures” often inclined them to capitulate to the expectations and wishes of clients who had no interest in their “treatment plan” or the purpose and process underpinning the development of those plans. Case managers perceived the plan as a “form” that was “awkward” and “hard to work with.” It was “problem-focused” and did not really incorporate or
integrate concepts and ideas related to personal strengths or the concept of “recovery.” Case managers believed they did not have the time and opportunity to conscientiously develop a plan that was truly “grounded” in the perspective, experience, and situation of the person with mental illness—a plan that reflected the consumer’s own wishes, needs, and goals—a plan that was truly client-centered and consumer-driven. Instead, case managers perceived the planning process as “driven” by the bureaucratic demands of the organization: the purpose of “treatment planning” was to serve the organizational requirement to complete the plan and have it signed by the consumer. Thereafter, the “treatment” plan was reviewed and “signed-off” by the case management supervisor and the director of the adult community support program; routed to multiple service providers, for their review and modification, if necessary, and then returned to the case record, in a timely manner. The completed, routed, reviewed, and signed plan was not re-presented to the consumer by the case manager at any time during the “routing” process, nor was copy of the plan given to the consumer, unless he or she requested it. Multi-provider conferences to discuss the “treatment” plan, with or without the participation of the consumer, were sporadic and usually triggered by problems in service delivery or discontent expressed by a consumer or family member.

In short, while there appeared to be significant differences in how satisfied consumers were with “treatment planning,” there was significant inter-subjective agreement among consumers that “treatment plans” were focused on their basic needs, not their “recovery” from severe and persistent mental illness. “Treatment plans” were centered on the clinical goals, resources, supports, and services that were believed to be necessary to maintain the person in the community through the formal programs of “treatment” and case management service delivery provided by the agency. Among case managers and especially therapists was the thematic consensus that “treatment plans” did not document the “real work of recovery” that many providers believed that they were involved in promoting or “witnessing” with some consumers: “The plans say one thing and what we really do is another.”

A Resilience Model of Recovery

Through the initiatives and outcomes of the Recovery Systems Development Grant in Columbiana County, a clearer sense of “mutuality” (Jordan, 1991, 1992) has emerged in the community mental health system. This mutuality recognizes and values consumer strengths and the ability of people “at the margin” (Jordan, 2002) to transform their lives and recover from severe mental illness, if they are provided with adequate and effective sources of resilience to achieve these ends (Jordan, 1991, 1992). As Judith Jordan clarifies it, “The capacity to respect vulnerability in each person and the ability to maintain oneself in a state of openness to influence are essential. If we respond to the vulnerability in the other with a wish to contribute to her/his growth as well as to the growth of connection, we are in the realm of love and mutuality...a decidedly open and growing process” (1991, p. 2). In spite of the problems in “treatment” planning, many consumers were inspired and sustained in their recovery through “mutual empathic involvement” (Jordan, 1992) with case managers and therapists, as well as “connections” (Jordan, 1992, 1999) with “friends” who have become their “family” and members of their “community.”

Transformation of Self

Sooner or later, either a single “turning point” or a series of multiple, varying, unpredictable, but meaningful experiences were identified by a significant number of consumers as being pivotal in helping them to take responsibility or “ownership” of their illness and control of their lives in general. There are therapists, case managers, and many consumers in leadership positions in the community mental health system in Columbiana County who have a profound, insightful and articulate understanding of this slow, but sure, “transformation of the self” (Gubrium & Holstein, 2001). However, these therapists are isolated or “disconnected” from meaningful dialogue with each other, their supervisor, case managers, and consumers about what needs to be fostered or supported in a person that will provide him or her with the
opportunity to take responsibility for the “work” of their recovery. The “transformation of the self” requires the assumption of personal responsibility and “ownership” of one's illness, through gaining insight and understanding of causes, symptoms, consequences, and the positive and adverse effects of psychiatric “treatment” (Amador et. al., 1993). It includes the discovery of a more active, “possible” sense of self and the ability to take stock of one's strengths, as well as weaknesses and vulnerabilities, when setting personal goals and developing the initiative to reach them. It involves the capacity for the use of the “self” as both a refuge as well as a resource, in the face of the anguish and adversity of personal change, growth, struggle to “control” one's symptoms, and sometimes the course of the illness itself (Davidson & Strauss, 1992). Consequently, it is critical to know and understand the sources of resilience that set the cognitive “work of recovery” in motion for individuals with severe and persistent mental illness who were involved in the study.

**Enduring Poverty**

Many consumers in the research sample have developed remarkable ways of adapting to poverty by moving from “survival”–as self-absorbed, isolated individuals or couples–to helping others with little or no money, food, clothing and transportation on a daily basis. Many of these consumers have lived in poverty all of their lives. Their ability to endure, “survive,” and overcome and “get by,” is a hallmark of their resilience. However, everything that the community mental health system does and all of the community resources that respond to consumers’ basic human needs is essential to helping a person engage in the cognitive processes fundamental to the “transformation of self.” And, even more important is the discovery of what it means to consumers to provide practical or concrete aid and assistance to each other or other individuals and families in poverty in the community. Helping others in poverty represents an incalculable, but critical, opportunity and means of developing a feeling of purpose, belonging, and responsibility for someone else that previous studies of resilience have identified are essential to the endurance of adverse life events and “survival” (Garmezy, 1991).

**The Community Mental Health System**

A significant number of consumers believe that their assigned case managers and therapists “care about” them. They “feel it.” They believe that they are not just “numbers” or “cases,” but people, toward whom providers feel a genuine compassion and appreciation of their struggle to recover from severe mental illness. Many consumers believe that their case managers and therapists are “there for” them. However, what is most compelling is the finding that (a) consumers care about their helpers, too, and (b) it genuinely matters to many case managers and therapists that consumers care about them. In short, recovery was best inspired, promoted, and sustained when there was “mutual empathic involvement” (Jordan, 1992) in the relationship between consumers and case managers or consumers and therapists, or both:

...Confidence in the other person (trust) and confidence in the relationship, if it is mutual, serve to support a personal sense of confidence and contribute more fully to a sense of well-being and possibility. Confidence in relationship depends on mutual trust in the empathic response of the other and commitment to one another and to the relationship; it also grows from reliability, a shared purpose of making the relationship mutually enhancing for both people, and a determination to honor and respect each other (Jordan, 1992, p. 5).

“Mutual empathic involvement” (Jordan, 1992) means that case managers and therapists are willing to “put themselves out there.” The are willing to enter the life and “struggle” of a person with severe and persistent mental illness in order to support the real “work of recovery” that a consumer faces in the presence of horrific symptoms and demoralizing poverty. And, it is equally clear from qualitative interviews with consumers that they must be willing to put themselves “out there” also. They must be
willing to allow a case manager or therapist, among others, into their lives and into “connection,” in order to engage in the “work of recovery,” overcome the effects of stigma and consequences of being poor, isolated, and, for many, unable to care for their basic needs. “Essential to the transformation of disconnection is an openness to being moved by the other person. Also essential is openness to being seen by the other person. Thus we must be able to open ourselves up to being known, to being moved, and to moving another person” (Jordan, 1995, p. 6).

None of the case managers and therapists in the research sample reported that they developed the capacity for “mutual empathic involvement” through a college or graduate school curriculum. These providers discovered, learned or “crafted” their own understanding and approach to helping a person with his or her recovery from severe mental illness, as a result their own experiences of personal recovery from “something,” such as alcoholism, addiction, mental illness, physical illness or other disability. Some practitioners learned from their previous practice experience with other clients, e.g., homeless individuals and families, that fostered their deep appreciation for human strengths, virtues, the capacity for “connection” (Jordan, 1992), and “inter-connection” with others through the creation of a “community” in response to adversity and trauma. More commonly, case managers and therapists reported isolated or repeated experiences in a “mutually empathic” relationship with one or more consumers within which a provider directly felt, shared, or “witnessed” a consumer's learning, personal change or “growth” in recovery. Indeed, this “mutual empathic involvement” in a helping relationship with a consumer was a primary source of psychological resilience for case managers in their struggle to reconcile the “ambiguities” of their role and the stresses of daily service delivery. Indeed, “bearing witness” to the “power” and inspiration of a consumer's recovery was so meaningful to a provider that his or her approach to “practice” with other consumers was admittedly changed. These practitioners found themselves “drawn” by a desire for even more involvement in the “work of recovery” with this consumer and others: “You want to be a part of it.”

“Connection”

Through all of the activities of the Recovery Systems Development Grant, opportunities were created for consumers to leave loneliness and isolation, as well as their exclusive dependence on a relationship with a case manager, therapist, or both, in order to experience “connection” (Jordan, 1992) with others, especially peers, in and through meaningful personal relationships. This was achieved through the leadership of a Steering Committee that formed three workgroups to achieve the goals of the Grant, each of which was chaired by a consumer and included other consumers, mental health professionals, and some members of the community. It was created through formal programs, such as annual Consumer Recovery Conferences that were planned, convened, delivered, and attended by people with severe mental illness in Columbiana County. It was reflected in a Community Involvement Workgroup and Consumer Volunteer Corps that achieved, among other things, an ongoing partnership with The Way Station, a community organization that assists and supports individuals and families with little or no income. It found expression through structured opportunities for peer support, such as a Welcome Wagon program that supported consumers who were recently discharged from inpatient psychiatric care, as well as replication of the highly successful BRIDGES program (Chaffee, 2003).

It was the Recovery Systems Development Grant in Columbiana County which allowed socially and emotionally isolated people with severe mental illness, in poverty, to experience opportunities for “connection” with another human being. And, the most profound, and determinative, difference in a consumer's ability to begin or do the “work of recovery,” was identified as “my relationship with my friend,” a “quality of connectedness” (Jordan, 1992) that continued to sustain them on a daily basis, long after the conclusion of qualitative field work.
“Interconnection”

Through planned and sometimes serendipitous opportunities for “connection,” a significant number of people with mental illness were able to develop “interconnections.” There are consumers who have “authored” their own “families” of close friends, as surrogates for their families of origin, and their own “communities” with others in recovery from severe mental illness that were not there prior to the implementation of the Recovery Systems Development Grant (Beal, 1999). When we take individuals' struggles with their own poverty and we take what they draw from the community mental health system, in terms of support and help, and add to their lives the ability to have meaningful “connection” with another human being--a friend who is “there for” them--and add to that, “interconnection” with a “family” and a sense of “community,” what we have are individuals who are truly, actually encouraged and inspired to do the “work of recovery.”

The “work of recovery” is a solitary, lonely, painful, and personal struggle that is best promoted when a person is able to “draw on” sources of personal and social support, as well as “give back” and experience “mutuality” in the process (Jordan, 1992). As one consumer put it, “I started to change when I realized that I needed to care about other people. When I started to care about other people, I stopped focusing so much on myself. It is caring about others that has really made the difference for me.”

**Spirituality**

A significant number of consumers believe that their spirituality was fostered, promoted, or encouraged by the “connections” and “interconnections” with friends and others in the community, as well as sources of support through the community mental health system, which helped them to realize, re-discover, and express their faith. Interestingly, for many consumers, their spirituality is not just an expression of religious belief: it is the sense of “mutuality” reflected in, and by, a person's sense of “connection” with a Higher Power.

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Most experts agree that current employment rates for adults with severe and persistent mental illness (SMD) reflect neither the potential nor the desire of these individuals to work. Numerous barriers contribute to this situation (e.g., stigma, structure of benefits systems, etc.) and efforts are underway at the federal, state and local levels to reduce these cultural and system-level obstacles. While mental health system leaders address these obstacles, experts from other fields must join the effort to expand the knowledge base about work for adults with SMD so that competitive employment can become the rule rather than the exception for these adults.

This research draws on frameworks from industrial/organizational (I/O) psychology related to motivation to work. The central component of the study focuses on working adults with SMD and examines the extent to which the Job Characteristics Model (Hackman & Oldham, 1976), a widely studied model of motivational job design, explains work outcomes for working adults with SMD. In addition, principles from Expectancy Theory and personnel selection were applied to the task of explaining differences in motivation to get a job among the population of non-working adults with SMD receiving vocational services.

**The Job Characteristics Model and Working Adults with SMD**

A large body of research provides evidence that the way jobs are designed impacts outcomes that are important to workers (e.g., job satisfaction) and to employers (e.g., productivity). Job design can be approached with one or more goals in mind. For instance, jobs can be designed in the interest of increasing production efficiency, minimizing physical strain, or with an eye on maximizing the extent to which they are motivating to the worker (Campion & Thayer, 1985).

The Job Characteristics Model (JCM) (e.g., Hackman & Oldham, 1976) is a widely studied, motivation-based model of job design that has explained important work outcomes (e.g., satisfaction, tenure) for workers in a wide variety of blue and white-collar jobs. Although there have been hundreds of published studies related to the JCM, this is the first known test of the JCM involving working adults with SMD (personal communication with Richard Hackman, October, 1998).

According to the JCM, certain core features of jobs as seen by the worker, impact psychological reactions to the job and the outcomes that follow from those reactions. In other words, as shown in Figure 1, the JCM posits that Perceived Core Job Characteristics impact work outcomes through their effects on psychological reactions to the job (i.e., Critical Psychological States).

The five Perceived Core Job Characteristics are: “skill variety” (i.e., the perceived variety and complexity of skills and talents required to perform the job); “task identity” (i.e., the extent the job is seen as involving a whole, identifiable task); “task significance” (i.e., the extent that the job is seen as affecting the well-being of others); “autonomy” (i.e., the extent the job is seen as allowing for personal initiative in performing one’s work); and “feedback from the job” (i.e., the extent that the job, itself, provides information about job performance).
Figure 1. Key Components of the Job Characteristics Model.

The JCM posits that the way jobs are perceived in terms of these five core job characteristics impacts three particular psychological reactions to the job. These reactions, referred to as “critical psychological states”, include “experienced meaningfulness of work” (i.e., the extent that the work is seen as making a difference to others), “felt responsibility” (i.e., the extent that the worker assumes responsibility for his/her work), and “knowledge of results” (i.e., the extent to which the worker is aware of the quality of his/her work). Jobs seen as high in the five core job characteristics (e.g., high in autonomy) are expected to be seen as more meaningful by workers, are expected to engender greater feelings of responsibility on the part of workers, and are expected to provide clear cues to workers about the quality of the work performed.

Finally, critical psychological states are expected to explain variability in five specific work outcomes which include: general job satisfaction, perceived job performance, internal work motivation (i.e., the extent that the worker is motivated by doing good work), satisfaction with growth (i.e., the extent that the worker is satisfied with the opportunity to learn new things on the job); and thoughts of quitting. In addition, the linkages shown in the model (Figure 1) are expected to be moderated by “growth need strength”. In other words, the linkages are expected to be significantly stronger for those individuals who are highly motivated to learn and grow on the job.

The JCM has generated a great deal of research, literally hundreds of published studies. Overall, published research supports the prediction that worker satisfaction, motivation and performance are higher among individuals who see their jobs as high in the five core job characteristics (Fried & Ferris, 1987). For example, a meta-analysis of JCM research based on the original assessment instrument, the Job Diagnostic Survey (JDS), estimated the correlation between job characteristics and job satisfaction to be \( r = .39 \) \((p < .05)\) and concluded that employees who have a high need for growth and who see their jobs as being high on the five core job characteristics have the most positive work outcomes (Loher, Noe, Moeller & Fitzgerald, 1985). Most of this research also supports the notion that the effects of perceived job characteristics on outcomes are partly or fully mediated by the critical psychological states.

We believed that the JCM would apply to working adults with SMD just as it has for countless subgroups of workers. Support for the model would imply that the appeal of jobs and consequent outcomes may be improved either by redesigning jobs in terms of a core set of job features or by making certain features of the job more salient to workers.

Consequently, two hypotheses, explained in greater detail elsewhere, provided direction for this component of the study that focused on working adults with SMD (Panzano & Baird, 2000; Panzano, Baird & Seffrin, 2002; Panzano, Seffrin & Chaney, 2003).

**Hypothesis 1.1**: The major predictions of the Job Characteristics Model will be supported by data gathered from working adults with SMD

**Hypothesis 1.2**: Variables added to the JCM based upon input by Subject Matter Experts including consumers with SMD, will add significant explanatory power to the original model.
Expectancy Theory and Non-working Adults with SMD

About halfway through this five-year project and based on demand from the field, the original research was expanded to consider the population of non-working adults with SMD involved in vocational programming (Panzano et al., 2002). Although experts asserted that engagement in vocational programming, in and of itself, indicates a readiness to work, they also recognized important differences among these adults with SMD that appeared to impact the success of job search efforts and, ultimately, success on the job. For example, experts described the population as varying in terms of strength of motivation to find a job (versus remaining unemployed) and in the extent to which obstacles impede job search efforts. Principles of Expectancy Theory (Vroom, 1964) and personnel selection were seen as providing direction for exploring these types of differences identified by experts that apply to the population of non-working adults with SMD who are engaged in various types of vocational programs.

Expectancy Theory (e.g., Vroom, 1964) is a framework for predicting or understanding which choice is most likely to be made among a set of two or more competing choices. For example, suppose we are interested in predicting whether an unemployed person will or will not begin investing effort in looking for a job. According to Expectancy Theory, the individual will choose the option that is expected to maximize desired outcomes and minimize aversive outcomes. Therefore, in order to predict the most likely choice, one would need to know:

1. outcomes seen as desirable to the individual (e.g., maximizing income) and the relative importance of achieving those outcomes (i.e., valence of outcomes),
2. outcomes seen as undesirable (e.g., placing children in daycare) and the relative importance of avoiding those outcomes, and
3. the individual’s views about which choice will maximize desired and highly valued outcomes while minimizing undesirable outcomes.

This exploratory component of the research is not intended to provide a formal test of Expectancy Theory as it applies to job seeking behavior. Instead, it aims to demonstrate that non-working adults with SMD involved in vocational programming vary in levels of attraction toward and away from work:

Hypothesis 2.1: Adults with SMD enrolled in vocational programming, while ready to work, will vary in their strength of motivation to find a job.

Support for Hypothesis 2.1 will pave the way for more formal tests of Expectancy Theory for the population of non-working adults with SMD.

In addition, there is solid evidence from a host of literatures, including the personnel selection and vocational rehabilitation literatures, indicating that past work experience is a strong predictor of intended and actual future work behavior. In other words, adults who have worked in the past are more likely to be attracted toward work than those who have not worked. As a result, we expected intentions to work to be related to prior work experience.

Hypothesis 2.2: Past work experience will partly explain intended future work behavior.

Support for Hypothesis 2.2 will echo the value of taking aggressive action to place adults with SMD into competitive work situations, a principle that is at the heart of supported employment, an emerging best practice.
Project Phases

The project occurred in four phases over five and a half years. Thirteen (13) organizations located in seven Ohio counties (i.e., Franklin, Lucas, Montgomery, Portage, Stark, Summit, and Trumbull) participated in one or more phases of the project.

The Development Phase occurred during years 1 and 2 and focused on tailoring the models and the assessment tools to the populations of interest. For example, interviews and focus groups with subject matter experts, including consumers, were conducted over an 18-month period to determine whether modifications and/or additions to the JCM were warranted. The Pilot Test Phase spanned years 2 and 3 and focused on testing assessment tools and approaches, and on validating instruments. Summaries of progress and findings related to the first two project phases are reported elsewhere and will not be repeated here (e.g., Panzano & Baird, 2000; Panzano et al., 2002). In contrast, the Hypotheses Testing Phase which spanned years 4 and 5 is the focus of this report. The Dissemination Phase also is underway. Finally, revisions are being made to paper and pencil and computerized assessment tools, staff training modules and JPQ feedback reports based on findings from the research and on the applied use of these tools in the field.

Subjects

Several hundred consumers of mental health and/or vocational services throughout Ohio gave informed consent to participate in the research. Consumers participated during all phases of the research. For example, some consumers served as key informants during the development or pilot test phases of the project. Similarly, consumers also participated during phase 3, formal hypothesis testing, which is the focus of this paper. In fact, about 350 consumers provided data in order to test the four hypotheses noted above.

Instruments: Versions of the JPQ

Although six consumer and four staff versions of the Job Profile Questionnaire (JPQ) were developed for this project (e.g., Panzano et al., 2002), two versions of the JPQ completed by consumers are most relevant to the formal Hypotheses Testing Phase of this research. The Current (or Last) Version of the JPQ is the primary assessment tool used to test Hypotheses 1.1 and 1.2 which address the relevance of the original and revised JCM to working adults with SMD. The Preview Version of the JPQ is the primary assessment tool used to test Hypotheses 2.1 and 2.2 which pertain to differences in motivation to work and future intentions to work among non-working adults with SMD who were participating in vocational programming. All versions of the JPQ are available in both paper-pencil and computerized options. The computerized option eliminates the need for an extra data-entry step and allows for immediate printing of a feedback reports to stimulate treatment planning and discussion related to work.

Participants

Over 150 working consumers (n = 156) completed the Current (or Last) Version of the JPQ that allowed for the testing of Hypotheses 1.1 and 1.2 related to the JCM. Fifty-nine percent (59%) of this group was male. The average age of these adults was 42 years but ranged from 18 to 64 years. Most participants were Caucasian (i.e., 63% Caucasian, 30% African American, 7% Other) and single, separated or divorced (i.e., 89%). Job tenure ranged from one week to 18 years with a mean of two years. Typically, subjects worked a little more than half-time (i.e., work week ranged from one to five days with a mode of three days). Factory/assembly jobs were most common (34.5%), followed by cleaning or food service (21.5%) and office/clerical work (11%).
Two-hundred and seven non-working adults with SMD ($n = 207$) completed the Preview Version of the JPQ that allowed for the testing of Hypotheses 2.1 and 2.2 related to motivation and intent to seek a job. This non-working group of adults was very similar to the working group described above in terms of age (i.e., age range 18 – 61 years; average age 38 years), race (i.e., 60% Caucasian, 35% African American, 5% Other), and marital status (i.e., 90% Single, Separated or Divorced).

Findings: The Job Characteristics Model

Findings that pertain to the two hypotheses related to testing the applicability of the JCM to working adults with SMD are summarized below.

**Hypothesis 1.1:** The major predictions of the Job Characteristics Model (JCM) will be supported by data gathered from working adults with SMD

Data from working adults with SMD support the vast majority of the predictions of the JCM. First, the JCM predicts that variance in three Critical Psychological States will be explained by Core Job Characteristics (see Figure 1). Findings support this prediction. Job characteristics accounted for significant and substantial variability in the three key psychological reactions to the job (Experienced Meaningfulness $R^2 = .37$; Felt Responsibility $R^2 = .19$ and Knowledge of Results $R^2 = .21$; all $p < .01$).

Second, the JCM predicts that variance in outcomes will be explained by Critical Psychological States. Findings support this prediction. Critical psychological states accounted for significant variability in all five outcomes included in the original model (Job Satisfaction $R^2 = .42$; Perceived Job Performance $R^2 = .30$; Internal Work Motivation $R^2 = .29$, Satisfaction with Growth $R^2 = .33$ and Thoughts of Quitting $R^2 = .20$; all $p < .01$).

Third, the JCM predicts that the effects of Core Job Characteristics are mediated by Critical Psychological States. Findings support this idea. The effects of job characteristics on the five JCM outcomes (i.e., thoughts of quitting, general job satisfaction, perceived job performance, satisfaction with growth opportunities and internal work motivation) are partly mediated by one of more of the three psychological states. In fact, for four of the five outcomes (perceived job performance was the exception), job characteristics explained a significant but modest percentage of the variability in outcomes beyond that explained by psychological states. For example, job characteristics explained only four percent of the variability in internal work motivation ($p < .01$) above and beyond the 54 percent explained by the critical states ($p < .01$). Although space limitations do not allow for a detailed account of test results, the overall pattern of findings suggests psychological states partly mediate the effects of job characteristics on outcomes.

Finally, the JCM predicts that model linkages will be stronger for individuals who have a high Need for Growth. The data did not support this prediction. The linkages between the Core Job Characteristics and Critical Psychological States were not significantly different for individuals with higher need for growth. Similarly, the linkages between Critical Psychological States and Outcomes were not significantly different for individuals higher in need for growth. Range restriction in growth need strength may partly account for this finding.

In summary, we were encouraged to discover that data provided by working adults with SMD suggest that the JCM provides important information related to understanding outcomes and reactions to work for members of this population. In fact, the vast majority of the relationships detected are consistent with those predicted by the JCM. In addition, the magnitude of variance explained by key model variables is significant, sizeable, and consistent with findings reported in publications.
On the other hand, we were discouraged to find that many of the working adults with SMD who participated in this research did not describe their jobs as being very high in terms of these important core job characteristics (e.g., skill variety). In fact, the following percentages of respondents agreed or strongly agreed that the job: involved skill variety (4%); allowed for autonomy (17%); provided feedback about the quality of job performance (40%); provided task identity (59%) and was significant to other people (59%). Further, although 79 percent agreed or strongly agreed that they were responsible for their work, only 47 percent agreed that their work was meaningful and only 49 percent indicated that just doing the job afforded opportunities for judging the quality of their work performance. These findings suggest a need for mental health and vocational professionals to attend more closely to job design issues for this population of workers.

**Hypothesis 1.2:** Variables added to the JCM based upon input by Subject Matter Experts, including consumers with SMD, will add significant explanatory power to the original model (i.e., variables from the original model will explain a significant amount of variance in new outcomes; variables in the revised model will explain significant variance in original and added outcomes.)

During the first 18 months of the research, additions to the JCM were made to every facet of the model (Panzano et al., 2002). These additional factors were suggested by the research literature, consumers of mental health services, mental health professionals and vocational rehabilitation specialists. A listing of variables added appears in Figure 2 but is explained in greater depth elsewhere (e.g. Panzano et al., 2002).

Space limitations do not allow for all of these variables to be defined. However, the added outcomes will be briefly defined because they are central to the discussion. Added outcomes include: Commitment to Supervisor (i.e., the extent that the worker is committed or dedicated to the supervisor); Empowerment (i.e., the extent the individual feels capable of overcoming challenges); Career Maturity (i.e., the extent the individual believes s/he understands the requirements of many jobs and, his/her own skills and abilities as a worker); Perceived Improvement in Health & Mental Health (i.e., the extent that the individual believes that his/her health/mental health has improved since starting work; and Job Strain (i.e., the extent that the worker finds the job to be stressful).

The revised model includes the five original outcomes and seven added outcomes. These additional outcomes were regressed on job characteristics and psychological states from: 1) the original model, and 2) the revised model that includes both the original and additional variables. Findings are summarized in Table 3.

Column Two shows the amount of variance in outcomes explained by the variables in the original model. Column Four shows the amount of variance explained by the variables in the revised model. Column Six shows the difference between Columns Two and Four, in other words, the additional variance explained by new variables after the original model variables have been entered into the regression equations. All additional variances explained were statistically significant ($p < .01$).
Figure 2. Additions made to the Job Characteristics Model.

<table>
<thead>
<tr>
<th>Job Characteristics</th>
<th>Critical Psychological States</th>
<th>Individual Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dealing with Others</td>
<td>- Emotional Dissonance</td>
<td>Commitment to Supervisor</td>
</tr>
<tr>
<td>Work Significance - Self</td>
<td></td>
<td>Empowerment</td>
</tr>
<tr>
<td>Feedback from Agents (Coworkers &amp; Supervisors)</td>
<td></td>
<td>Career Maturity, Job &amp; Worker</td>
</tr>
<tr>
<td>Emotional Labor</td>
<td></td>
<td>Perceived Improvement – Health &amp; Mental Health</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Job Strain</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Categories of Moderators</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity as a Worker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skill Match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facet Satisfactions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Needs Satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Issues for Workers in Vocational Programming</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Variance Explained in All Outcomes by Original and Revised Models

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Total $R^2$ Original Model</th>
<th>$p$</th>
<th>Total $R^2$ Revised Model</th>
<th>$p$</th>
<th>Increase in $R^2$ Over Original</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Job Satisfaction</td>
<td>.52</td>
<td>.001</td>
<td>.61</td>
<td>.001</td>
<td>.09</td>
</tr>
<tr>
<td>Perceived Job Performance</td>
<td>.47</td>
<td>.001</td>
<td>.49</td>
<td>.001</td>
<td>.02</td>
</tr>
<tr>
<td>Internal Work Motivation</td>
<td>.40</td>
<td>.001</td>
<td>.43</td>
<td>.001</td>
<td>.03</td>
</tr>
<tr>
<td>Satisfaction with Growth</td>
<td>.44</td>
<td>.001</td>
<td>.46</td>
<td>.001</td>
<td>.02</td>
</tr>
<tr>
<td>Thoughts of Quitting</td>
<td>.25</td>
<td>.001</td>
<td>.37</td>
<td>.001</td>
<td>.12</td>
</tr>
<tr>
<td>Commitment to Supervisor</td>
<td>.37</td>
<td>.001</td>
<td>.45</td>
<td>.001</td>
<td>.08</td>
</tr>
<tr>
<td>Career Maturity – Job</td>
<td>.21</td>
<td>.001</td>
<td>.29</td>
<td>.001</td>
<td>.08</td>
</tr>
<tr>
<td>Career Maturity – Worker</td>
<td>.35</td>
<td>.001</td>
<td>.40</td>
<td>.001</td>
<td>.05</td>
</tr>
<tr>
<td>Empowerment</td>
<td>.43</td>
<td>.001</td>
<td>.49</td>
<td>.001</td>
<td>.06</td>
</tr>
<tr>
<td>Perceived Improvement – Health</td>
<td>.27</td>
<td>.001</td>
<td>.32</td>
<td>.001</td>
<td>.05</td>
</tr>
<tr>
<td>Perceived Improvement – Mental Health</td>
<td>.46</td>
<td>.001</td>
<td>.55</td>
<td>.001</td>
<td>.09</td>
</tr>
<tr>
<td>Job Strain</td>
<td>.25</td>
<td>.001</td>
<td>.35</td>
<td>.001</td>
<td>.10</td>
</tr>
</tbody>
</table>

Twenty-five potential moderators such as the physical comfort of the work environment also were added to the revised model. We are currently in the process of examining the effects of these moderators.

Research Findings: Expectancy Theory

The purpose of this portion of the research was to explore differences in attraction toward and away from work among non-working adults with SMD enrolled in vocational programming. Findings related to the two guiding hypotheses are described below.

Hypothesis 2.1: Adults with SMD enrolled in vocational programming, while ready to work, will vary in their strength of motivation to find a job.
Four components of attraction toward (or away from) work were identified and found to be internally consistent. These components include: Affective Motivation to Work (i.e., the affective or emotional attraction toward working) (alpha = .81); Positive Expectations about Working (i.e., the extent that the individual expects positive outcomes to occur as a result of getting a job) (alpha = .79); Urgency to Work (i.e., the extent that the individual wants to begin working as soon as possible) (alpha = .84); and Anxiety about Working (i.e., the extent that the individual is nervous or anxious about getting a job) (alpha = .79). Analyses suggest that these scales are related, but not redundant as inter-scale correlations, while significant, are modest to moderate in magnitude.

Figure 3 shows that the pattern of responses to the four scales varies across the 207 non-working consumers who completed the JPQ Preview. Thus, adults in our sample differed in terms of strength of attraction toward and away from work. While the majority had positive expectations about working (80%) and saw finding a job as urgent (50%), only a minority (22%) agreed they were affectively motivated to work. Even so, only slightly more than 20 percent agreed or strongly agreed that the idea of working evoked feelings of anxiety. These findings provide support for Hypothesis 2.1.

Figure 3. Patterns of responses for components of Motivation to Work.

These four aspects of motivation to work were regressed on several explanatory variables that fall into 4 broad categories: Issues for Workers with SMD (e.g., symptom awareness); Support for Work by Significant Others (e.g., family, friends); Beliefs about Working (e.g., expected job strain), and Individual Difference Variables (e.g., identity as a worker). Explanatory variables accounted for substantial variability in each of the four motivation scales. For example, they accounted for 82 percent of Affective Motivation to Work with Beliefs about Working accounting for the lion’s share (67%) of that variance. This particular finding suggests that attraction toward working potentially can be impacted through exposing consumers to information and experiences that alter their beliefs about work.

Hypothesis 2.2: Past work experience will partly explain intended future work behavior. Consumers also provided basic information about past work experience and intended future work. Correlations between past and future intended work behavior appear in Table 5. One-third (i.e., 7) of 21 possible correlations were significant (*) and five of those fall on the diagonal. These findings suggest that past work experience is likely to have a non-trivial impact on future intentions about work and provides support for Hypothesis 2.2.
Table 5. Relationships between Past Work and Intended Future Work

<table>
<thead>
<tr>
<th>Past Experience</th>
<th>Intended Future Work</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full Time</td>
</tr>
<tr>
<td>Full Time</td>
<td>.41*</td>
</tr>
<tr>
<td>Part Time</td>
<td>.09</td>
</tr>
<tr>
<td>Short Term</td>
<td>.06</td>
</tr>
<tr>
<td>Temporary</td>
<td>.27*</td>
</tr>
<tr>
<td>Odd Jobs</td>
<td>.11</td>
</tr>
<tr>
<td>No Work</td>
<td>-.09</td>
</tr>
</tbody>
</table>

*p < .05

Discussion

The data provided from 156 working adults with SMD provide support for the Job Characteristics Model. The way these workers perceived their jobs in terms of five core job characteristics was related to important psychological reactions and work outcomes. Additions made to the original JCM including job characteristics (e.g., emotional labor) and psychological states (e.g., emotional dissonance) explained additional significant variability in the original five JCM outcomes, above and beyond the variability explained by original model variables. Seven additional outcomes seen as important to key stakeholders including consumers also were added to the model (e.g., improved health, career maturity, empowerment). Analyses indicated that both the original and revised model explained significant variability in all 12 outcomes in the revised model.

The finding that the JCM applies to the population of working adults with SMD is important for several reasons. First, and perhaps most important, it demonstrates that processes related to perceiving and reacting to jobs operate for workers with SMD as they do for other segments of the working population. Second, support for the model suggests that the design of jobs should be considered (in addition to type of work) in the job development process. Third, support for the JCM emphasizes the important notion that worker perceptions about their jobs are important. As a result, employers and counselors need to regularly investigate workers’ views about their work. If necessary, jobs can be redesigned to improve workers’ reactions. Job enlargement and job enrichment are two existing strategies for accomplishing this. In addition, social information provided by employers, coworkers, counselors and family members also can be effective in helping workers see their jobs in new and more favorable ways (Wrzesniewski & Dutton, 2001). More attention clearly needs to be given to the value of motivational job design for improving the experience of work and work outcomes for adults with SMD.

Motivational issues clearly are involved in obtaining, maintaining and returning to employment for persons with disabilities. However, motivational issues have not been adequately studied with regard to employment for this population.

This research provides evidence that strength of motivation toward (or away from) work varies considerably among non-working adults with SMD who are involved in vocational programming. These types of differences cannot be ignored. In theory, attraction toward work needs to be substantially stronger than attraction away from work if an individual is to persevere with finding and keeping a job. At
the same time, finding a job quickly builds valuable and needed work experience for adults identified as “ready to work”.

Clearly, a tension exists between getting a person quickly into the workforce and ensuring that the psychological attraction toward work is strong enough to motivate that individual to persevere at a job in the face of obstacles and adversities that are bound to arise. The JPQ Preview provides a mechanism for evaluating strength of motivation to work. This information is likely to be of interest to professionals working with non-working adults with SMD who are engaged in various types of vocational programs such as supported employment and related interventions (e.g., motivational interviewing).

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Paper Presentations of the Research to Date

Panzano, P.C., Seffrin, B., & Chaney-Jones, S. (2003, November). Understanding the motivation to keep or seek a job among members of the population of adults with SMD. Paper presented at the Ohio Department of Mental Health Research Results Briefing 2003, Columbus, OH.

Source of Funds:

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THE INNOVATION DIFFUSION AND ADOPTION RESEARCH PROJECT (IDARP):
MOVING FROM THE DIFFUSION OF RESEARCH RESULTS
TO PROMOTING THE ADOPTION OF EVIDENCE-BASED INNOVATIONS
IN THE OHIO MENTAL HEALTH SYSTEM

Decision Support Services, Inc.
Phyllis C. Panzano, PhD        Beverly A. Seffrin, PhD        Sheri Chaney-Jones, MA
Ohio Department of Mental Health
Office of Program Evaluation and Research
Dec Roth, MA        Dushka Crane-Ross, PhD
Rick Massatti, MSW, LSW        Carol Carstens, PhD, LISW

In the process of implementing its quality agenda, the Ohio Department of Mental Health is
taking action in three arenas: consumer Outcomes, quality improvement, and evidence-based practices
(EBPs). This project is focused on the EBP component of the implementation process. ODMH hopes to
improve quality of care by facilitating the adoption and assimilation of EBPs by service providers in
Ohio. Coordinating Centers of Excellence (CCOE) have been established as structural mechanisms to
accomplish this goal. Each CCOE is seen as the statewide technical expert with regard to the
implementation of a specific one of these innovative practices. The major functions of CCOEs are to
disseminate information about EBPs to provider organizations, to promote the adoption of EBPs, and to
provide the technical assistance, training, and consultation required for the successful implementation of a
specific EBP by service providers.

The IDARP research project focuses on two broad questions: 1) What factors and processes
influence the adoption of innovations by behavioral healthcare provider organizations? 2) What factors
and processes contribute to the longer-term assimilation and impacts of innovations by adopting
organizations?

In addition to the literatures germane to the four EBPs that we are studying, IDARP lies at the
crossroads of several streams of research which include the literatures related to the diffusion, adoption
and implementation of innovations, organizational change, strategic decision making, and healthcare
planning and implementation (Panzano, Roth, Crane-Ross, et al., 2002). These bodies of knowledge have
shaped our research models, design, and methods and also account for the following major assumptions
that guide IDARP. First, EBPs are innovations, as they are expected be perceived as “new” by
organizations considering their adoption. Second, scientific evidence is necessary but not sufficient for
organizations to decide to adopt EBPs. Third, upper echelon theory is methodologically relevant because
the perceptions and attitudes of top managers partly explain organizational decisions and actions
(Hambrick and Mason, 1984). Fourth, implementation effectiveness affects innovation effectiveness
(Klein and Sorra, 1996) which, together, define implementation success. Fifth, factors at “multiple levels
of analyses” are expected to impact the success of implementation (Klein, Dansereau and Hall, 1994). Finally,
three key phases of the innovation adoption process (i.e., initiation, decision, implementation)
(e.g., Rogers, 1995) need to be examined in order to fully understand the outcomes of efforts to
implement EBPs.
The diverse literatures and the many assumptions that underlay IDARP hint at the complexity of this research. The four models that guide the project are briefly described below.

**Model 1: The Adoption Decision**

The first IDARP model focuses on the decision to adopt (or not to adopt) an innovation such as an EBP. The adoption decision is the most widely studied of the three phases of the innovation adoption process and a myriad of factors have been linked to it. However, this research has been criticized for lacking a basis in theory.

Figure 1. Model 1: Decision to adopt an innovation as a decision under risk.

We are proposing a theory base for understanding the adoption decision. We conceptualize the decision as an organizationally-important (i.e., strategic) decision which involves risk (see Figure 1). Following this logic, the decision to implement is expected to be negatively related to the perceived risk of adopting, and positively related to the organization’s (a) capacity to manage implementation-related risks, and (b) historic propensity to take risks. IDARP directly assesses these three risk-related factors as well as a host of antecedent variables that are expected to explain them. We were interested in looking at antecedents because they can provide clues about what might be done to alter the three risk-related perceptions.

**Model 2: Multi-level Model of Implementation Success**

The second IDARP model expresses the idea that factors at many different levels of analysis impact implementation success. For example, system and professional norms are environmental level variables expected to impact the success of implementation efforts (see Figure 2). The quality of communication between adopting organizations and their CCOE is an inter-organizational level variable with likely implications for implementation success. Factors at the level of the adopting organization also are expected to be important. For example, the extent to which the organization has a learning culture that encourages employees to try new things without fear of reprisal if they don’t work out is expected to have an impact on the success of efforts to implement innovations. Variables specifically tied to the implementation of the innovation itself are particularly important. We call these project level variables. They are different from general organizational characteristics such as organizational size or culture. Instead, project level measures are directly connected to the implementation of a specific EBP and include variables such as the extent to which (a) dedicated or earmarked resources are available to support implementation, (b) the organization is committed to the decision to adopt the particular innovation, and (c) needed technical assistance is available to employees responsible for implementing the project. Finally, characteristics of the innovation or EBP itself are expected to have an influence on
implementation success. For example, innovation-level variables such as the extent to which the EBP is supported by scientific evidence and the complexity of the EBP are likely to impact the success of implementation efforts.

Figure 2. Examples of variables by level.

<table>
<thead>
<tr>
<th>Level</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>System and professional norms</td>
</tr>
<tr>
<td>Inter-O rganizational Relationship (with CCOE)</td>
<td>Quality of communication</td>
</tr>
<tr>
<td>Organization</td>
<td>Learning culture</td>
</tr>
<tr>
<td>Project</td>
<td></td>
</tr>
<tr>
<td>• Re: Organization</td>
<td>Availability of dedicated resources</td>
</tr>
<tr>
<td>• Re: Decision</td>
<td>Commitment to decision to adopt</td>
</tr>
<tr>
<td>• Re: Implementation</td>
<td>Access to technical assistance</td>
</tr>
<tr>
<td>Innovation</td>
<td>Scientific evidence</td>
</tr>
<tr>
<td></td>
<td>Experiential evidence</td>
</tr>
</tbody>
</table>

**Defining Implementation Success**

The dependent variables in the second IDARP model deal with implementation success. Implementation success is defined in terms of two classes of outcomes: measures of implementation effectiveness and measures of innovation effectiveness. (Klein and Sorra, 1996). Implementation effectiveness reflects the extent to which an innovation (e.g., EBP) is implemented accurately and consistently by committed, targeted employees. Fidelity is one specific indicator of implementation effectiveness. In contrast, measures of innovation effectiveness reflect benefits that accrue to an organization and its stakeholders as a result of implementing innovative practices. Positive outcomes for consumers fit into the category of innovation effectiveness measures. Although the link between implementation and innovation effectiveness is typically assumed rather than directly measured, it is generally assumed that implementation effectiveness has a positive impact on innovation effectiveness (e.g., Klein and Sorra, 1996; Conn, Klein and Sorra, 2001). We test this hypothesis in the present study.

Thus, our second model or roadmap does two things. First, it defines implementation success as consisting of two related elements: implementation effectiveness and innovation effectiveness. Second, it identifies variables spanning multiple levels that are likely to explain the success of implementation efforts.

**Model 3: Cross-Phase Effects on Implementation Outcomes**

Our third model represents the important idea that aspects of each of the three key phases of the innovation adoption process are likely to impact the outcomes of implementation (see Figure 3).

Initiation, the first stage, begins with an awareness of a need, problem or opportunity facing the organization that warrants action. This awareness stimulates a search for solutions, which may include innovations such as EBPs. Potential solutions then are evaluated in terms of the extent to which they are likely to suit the particular need or needs facing the organization. The extent to which the EBP offers a good fit to the identified organizational problems or opportunities is one example of an initiation phase variable that is likely to be linked with implementation success.
The initiation phase culminates with a decision made by an organization at a particular point in time about whether or not to adopt a particular innovation. This decision is likely to take the interests of some or many of the organization's stakeholders into account and can be arrived at in many different ways. If the decision is “no”, the process halts, at least for the time being. It may resume at a later point in time as circumstances and/or information change. If the decision is “yes”, the process proceeds to the next phase: Implementation. The extent to which the decision process involves many stakeholders (i.e., is a participative process) is one example of a decision phase variable that is likely to be tied to implementation success.

Implementation occurs after the decision to adopt an innovation has been made. The early part of the implementation phase is likely to involve working out details of the plan for getting the practice up and running, securing additional needed resources, and engaging in start-up activities such as hiring or training staff. When these activities are completed, the practice can then be put into actual use. With experience and time, it is conceivable that the practice may become part of the ongoing organizational routine. The extent to which implementation team members have access to needed technical assistance is certainly likely to make a difference when it comes to outcomes of the implementation process.

Thus, according to our cross-phase model, in order to fully understand the success of implementation efforts, one must consider not only what is happening during the implementation phase, but also what happened during earlier phases of the innovation adoption process.

**Model 4: Effects of Implementation Variables on Outcomes Over Time**

Our fourth model incorporates two major messages. First, past implementation policies may or may not explain what is currently being seen with regard to implementation outcomes. Some past (but discontinued) implementation policies and practices such as initial staff training may continue to have effects on present outcomes, whereas other past (but discontinued) implementation policies and practices such as praising staff for their efforts may no longer have a bearing on implementation outcomes. Second, what is likely to matter most are present implementation policies and practices. That is, what the organization is doing now with regard to implementing supportive policies is likely to have the greatest effect on present implementation outcomes.
Methods and Progress to Date

Informants represent 71 behavioral healthcare organizations that have adopted or considered adopting one of the four EBPs and have had interactions with the CCOEs disseminating these practices. Of the 71 organizations, 19 adopted two or more EBPs for a total of 91 EBP projects. Since 19 organizations adopted more than one EBP, we refer to EBPs as projects, and our analyses are based on the 91 projects rather than the 71 organizations. The four EBPs and number of associated projects participating in IDARP are as follows: (1) Cluster-Based Planning, involving the use of a research-based consumer classification scheme \((n = 23)\); (2) Multisystemic Therapy for youth, a model of intensive home-based treatment \((n = 17)\); (3) the Ohio Medication Algorithms Project, an adaptation of the Texas Medication Algorithm Project \((n = 15)\); and (4) Integrated Dual Disorder Treatment, a treatment model for individuals with mental illness and substance abuse \((n = 36)\). The selection of EBPs was completed with the goal of maximizing generalizability of findings by selecting practices that varied on a broad range of factors thought to be related to implementation (e.g., EBP complexity, scientific evidence).

A longitudinal design is used to gather information about implementation efforts and outcomes as they progress. Projects are incorporated into the study at various stages of adoption and implementation, including organizations that have decided not to adopt (nonadopters), organizations that have not made a final decision (wait and see), those who have recently decided to adopt (adopters), those at various stages of implementation (implementers) and projects that have decided to rescind the adoption decision (de-adopters). At initial contact, data collection focuses on the adoption decision, early implementation efforts and an assessment of each organization’s stage of adoption (see Table 1). For projects that are in the adopters and implementer stages, second and third contacts are made, at intervals of approximately nine months. The primary focus of these follow-up contacts is on continued implementation efforts and outcomes.

Table 1. Participating Projects by Stage

<table>
<thead>
<tr>
<th></th>
<th>Non-adopter</th>
<th>Wait &amp; See</th>
<th>Adopter</th>
<th>Implementer</th>
<th>De-Adopter</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Contact</td>
<td>10</td>
<td>19</td>
<td>8</td>
<td>48</td>
<td>6</td>
<td>91</td>
</tr>
<tr>
<td>Second Contact</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>42</td>
<td>4</td>
<td>50</td>
</tr>
</tbody>
</table>

Data are collected from between two and five key informants for each project. The number of informants is related to the project’s stage of implementation, with fewer informants in projects in early phases of decision-making and adoption (mean = 3.2 informants), than in projects in later phases of implementation (mean = 4.8 informants). Key informants include individuals involved in making the adoption decision (e.g., agency executive directors, medical directors), individuals involved in implementation of the practice (e.g., case managers, other clinicians), and individuals who have
knowledge of organizational variables such as organizational structure and management style (e.g., chief financial officer). For implementation efforts that require collaboration with mental health boards and other service systems (e.g., juvenile justice system for MST), data are also gathered from key informants in these collaborative community service systems. In addition, data are gathered from the CCOEs about each participating project.

Key decision-makers, implementers and community collaboratives participate in confidential interviews that include open-ended and structured questions geared toward understanding individual perceptions about the adoption decision, strategies and tactics used to plan and implement the practice, and outcomes of implementation. Following each interview, informants are asked to complete a survey that includes additional questions related to perceptions about the innovation, the decision-making process, characteristics of the organization, the inter-organizational relationship with the CCOE, and several environment-level variables.

Currently we have complete information representing first contact. Two-hundred and twenty informants participated in interviews, and of those, 173 completed follow-up surveys, reflecting an 80% response rate. Chief Financial Officers (CFO) or executive team members also returned surveys connected to 80 of the 91 projects (88%), and key informants employed by a CCOE submitted follow-up questionnaires for 81 out of 91 (89%) projects. Overall, the average number of questionnaires received per project is 3.8, and the average number of interviews per project is 2.4.

**Results**

Findings reported below are framed in terms of the extent to which data support the four IDARP models. Because we are still actively gathering data, reported results are limited to basic descriptive findings and some preliminary examinations of inter-relationships among key model variables. Most IDARP variables are measured with multi-item scales that are internally consistent, $\alpha \geq .70$. All relationships reported are significant at a probability level of at least $p < .05$.

**Model 1: The Adoption Decision -- a decision under risk.** The analyses related to Model 1 are based on our first contact data because it focuses on the decision. Roughly ninety ($n = 91$) projects are represented by these data. As predicted, the likelihood of adoption was negatively related to the perceived risk of adopting ($r = -.51$) and positively related to the organization’s capacity to manage risk ($r = .38$), and the organization’s past propensity to take risks ($r = .20$). Thus, preliminary analyses lend support to the three primary linkages in Model 1.

Antecedent variables also were examined due to their expected links to the three risk-related factors in Model 1. As expected, negative relationships were found between perceived risk of adopting and three factors: (1) perceived relative advantage (i.e., the extent to which benefits are seen as outweighing costs) ($r = -.51$), (2) extent to which scientific evidence exists about the effectiveness of the practice ($r = -.20$), and (3) level of awareness of experience-based evidence (e.g., success stories from organizations that have tried it) attesting to the effectiveness of the practice ($r = -.30$). Perceived risk was also seen as lower by organizations that employ staff who are knowledgeable about the practice ($r = -.45$) and when professional and system norms are seen as favoring the adoption of the practice ($r = -.45$). Additional analyses suggest that the effects of these antecedent variables work through their impact on perceived risk. That is, perceived risk appears to fully mediate the effects of the antecedents on the adoption decision.

Expected relationships were found between several antecedents and the second factor shown in Model 1: reported capacity to manage the risks associated with implementation. Capacity to manage risk was seen as higher when the innovation was thought to be easy to put into use (i.e., ease of use was high;
and when the belief existed that most people trained to implement could do so consistently and competently (i.e., craft skills were seen as high; \( r = .25 \)). Perceived capacity was positively related to top management support for the practice (\( r = .50 \)), and the extent to which resources were specifically earmarked to support implementation efforts (i.e., dedicated resources were high, \( r = .63 \)). Finally, as expected, we found one negative link between an antecedent and capacity to manage risk. When the organizational environment was viewed as hard to predict (environmental uncertainty was high), capacity to manage risk was seen as lower (\( r = -.22 \)). Additional analyses indicated that the effects of these antecedents on the adoption decision are fully mediated by perceived capacity to manage risk.

Finally, two antecedents to organizational risk propensity were examined: learning encouragement and management attitude toward change. Risk propensity was positively linked to (a) learning encouragement (\( r = .71 \)), defined as the extent to which the organization tends to encourage and reward staff for trying new things and does not punish staff when these efforts fail, and (b) management attitude toward change (\( r = .23 \)), defined as the extent to which the organization’s managers believe that change results in good things.

Data from our first contacts supports the idea that the decision to adopt an innovation such as an EBP is a decision involving risk.

Model 2: Multi-level model of implementation success. Our second IDARP model is concerned with implementation success and, consequently, is relevant only to the 50 cases in which organizations chose to adopt an EBP. Preliminary tests of bivariate model linkages were based primarily on data gathered at the second point of contact with those organizations. In other words, data upon which these analyses were based were gathered from both new and experienced implementers.

Dependent variables for Model 2 include measures of implementation effectiveness (e.g., fidelity/reinvention, assimilation) and measures of innovation effectiveness (e.g., positive outcomes for consumers)—two components of implementation success that research suggests are related to one another (i.e., implementation effectiveness \( \rightarrow \) innovation effectiveness). As expected, a negative relationship was found between the extent to which the practice had been modified from its prescribed form (i.e., reinvention) and reported positive outcomes, whereas a positive relationship was found between the extent to which the practice had been assimilated into the organization’s routine and positive outcomes. These findings lend support to the expectation that implementation effectiveness has a bearing on innovation effectiveness outcomes.

Our second model also hypothesized that these two classes of implementation success measures would be explained by variables spanning multiple levels of analyses. Simple bivariate correlations from our second contact data lend support to this idea. We considered factors linked to one measure of implementation effectiveness: assimilation. Assimilation is defined as the extent to which the practice (i.e., EBP) is viewed as permanent, or part of ongoing organizational operations. Assimilation was positively related to variables at multiple levels. Positive relationships were found between assimilation and: (a) quality of communication between the CCOE and the adopting organization, an inter-organizational level variable (\( r = .45 \)); (b) the extent to which the organization was seen as having a learning culture (\( r = .30 \)) and a centralized decision making structure (\( r = .53 \)), two organizational-level variables, (c) the availability of dedicated resources for implementing the EBP (\( r = .52 \)) and the extent to which implementation was seen as relatively easy (\( r = .40 \)), two project-level variables, and (d) the extent to which the EBP was seen as compatible with the organization’s treatment philosophy (\( r = .45 \)), an innovation-level variable. Thus, as expected implementation effectiveness, as measured by assimilation, was related to factors at multiple levels of analysis.

Model 2 also is concerned with whether measures of innovation effectiveness are explained by
variables at multiple levels. Innovation effectiveness, as measured by six indicators (e.g., overall positive consequences, perceived positive outcomes for consumers, positive impact on organization functioning, positive impact on the organization’s image, extent to which expectations had been realized, and global impact), was found to be related to the extent to which the adopting organization (a) identified with the CCOE \( (r = .40 \text{ to } .60) \), (b) reported a capacity to manage implementation–related risks \( (r = .37 \text{ to } .40) \), (c) had a system in place for monitoring performance outcomes related to implementation \( (r = .52 \text{ to } .74) \), (d) had access to technical assistance related to implementation \( (r = .48 \text{ to } .66) \) and (e) believed that scientific evidence was available to support the efficacy of the practice \( (r = .30 \text{ to } .60) \). In contrast, the six indicators of innovation effectiveness were negatively related to the extent to which the practice had been modified from its prescribed form \( (r = -.24 \text{ to } -.49) \).

**Model 3: Cross-Phase Effects on Implementation Outcomes.** Model 3 examines how approaches and strategies used during the initiation and decision phases are related to assimilation and positive outcomes in later phases of the implementation process. The analyses related to Model 3 involved first contact and second contact data. Bivariate correlations were calculated between initiation and decision phase variables at first contact and assimilation and positive outcomes at second contact. With regard to initiation phase variables, findings supported Model 3. Initiation phase variables assessed during first contact were found to be correlated with assimilation and positive outcomes at second contact. The correlation coefficients reported below represent the ranges across seven indicators of assimilation and positive outcomes described previously. Overall findings indicated that assimilation and positive outcomes were greater if: (a) staff had high expectations about the benefits of implementing \( (r = .44 \text{ to } .69) \) (i.e., staff indicated that they were motivated to implement by the expectation that the EBP would improve consumer outcomes, improve the quality and efficiency of service, and result in political or strategic benefits for their organization); (b) initial perceptions about the advantages of implementing outweighed the disadvantages \( (r = .59 \text{ to } .74) \); (c) there was a positive inter-organizational relationship with the CCOE \( (r = .38 \text{ to } .57) \) (e.g., at first contact, agency staff indicated that the CCOE could be trusted, that they didn’t have any hidden agenda or motives), and (d) outcomes of implementation were demonstrable or tangible \( (r = .26 \text{ to } .51) \).

As expected, variables pertaining to the decision-making process, which were gathered at first contact, were related to assimilation and positive outcomes, gathered at second contact. For example, assimilation and positive outcomes were related to: (a) the extent to which the decision to adopt was based on objective decision-making strategies \( (r = .37 \text{ to } .71) \); (b) the extent to which organizational leadership had access to high quality information during the decision phase to assist them in making the decision to adopt \( (r = .34 \text{ to } .61) \); (c) the extent to which internal staff were involved and had an influence in the decision-making process (internal influence variable) \( (r = .28 \text{ to } .46) \), and (d) the extent to which organizational leadership supported and demonstrated commitment to the decision to implement the practice at first contact \( (r = .37 \text{ to } .52) \).

In summary, results of Model 3 suggest that variables in earlier phases can have enduring effects on implementation outcomes. Things that happen and strategies used early on, when people are initially considering and making decisions about whether to adopt an innovative practice, are important to long-term outcomes.

**Model 4: Effects of Implementation-Phase Variables on Outcomes Over Time.** Model 4 focuses on implementation-phase variables and how practices and strategies used during implementation affect outcomes over time. With regard to implementation-phase variables, Model 4 suggests that policies and practices in place during early phases of implementation (first contact) have smaller effects on outcomes than policies and practices employed during later implementation (second contact). Correlations were examined between implementation variables, gathered at first and second contact, and outcomes (including assimilation and six positive outcomes), gathered at second contact. Though data collection is
not complete, preliminary analyses, based on a comparison of the number of statistically significant correlations, provide support for Model 4.

Major findings were that (a) Top management support during early implementation (first contact) was related to none of the seven outcomes at second contact. Top management support during later implementation (second contact) was related to all seven outcome variables described above. (b) Having freedom to express doubt about the practice during early implementation (first contact) was related to three of seven outcomes at second contact. Freedom to express doubt during later implementation (second contact) was related to all seven outcomes. (c) Having access to technical assistance during early implementation (first contact) was related to only three of seven outcomes at second contact. Having access to technical assistance during later implementation (second contact) was related to all seven outcomes. (d) Having dedicated resources during early implementation (first contact) was related to none of the seven outcomes at second contact. Having dedicated resources during later implementation (second contact) was related to three of seven outcomes.

These findings suggest that implementation strategies need to be sustained in order to have positive impacts on long-term outcomes. Unlike initiation-phase and decision-phase variables that have lasting effects on outcomes, initiation-phase policies and practices are only effective as long as they are sustained.

Implications

Results of the project to date confirm the explanatory power of the four models and provide a great deal of guidance to organizations seeking to successfully adopt or maintain EBPs. It is possible to understand organizational behavior in this arena, and results have identified a number of leverage points in the process that can be used to influence agencies to adopt EBPs and to help those practices succeed and produce good outcomes for the agency and for consumers. Four important areas of implications emerged from the research.

1. Adoption decisions are made in a context of risk assessment. There is a decision process and a decision point within an agency about whether they’re going to adopt an evidence-based practice. That decision is made in a context of risk assessment—the agency is going to weigh a lot of factors in trying to decide whether to do it or not. They’re more likely to do it if they think the benefits would outweigh the risks, if they think they’re going to be able to handle the risks, and if they are an organization that tends to be innovative. There are things that affect and shape those perceptions, and a number of those things can be influenced by an entity seeking to increase the level of adoption of EBPs.

Relative advantage was an important variable in the decision model—all the reasons why the agency thought it would be a good idea to do the practice—that differentiated between adopters and non-adopters. An educational campaign about EBPs can illuminate and explain all the advantages in order to make sure people are aware of them when they are making the decision. Scientific evidence was also important in the decision process; this information can also be communicated in an educational campaign. A big decision factor in whether agencies thought they could manage the risks was how easy they thought the practice would be to get up and running, and whether their staff could get the skills to do it. An entity like the CCOEs can focus on these things as part of their training programs, and hence, have a positive effect on the adoption decision.

2. Pay attention to multiple levels during the implementation process. Implementation is a complex process to sustain, because things can go wrong—or right—at many different levels in the process, and things at all the levels need to be given attention in order to help weight the balance toward success. The variable that had the highest correlations with positive outcomes was performance
monitoring—the extent to which the agency actively watched what was happening as the practice was being implemented. If an agency trying to get a practice up and running would put in place an ongoing monitoring process, that would greatly enhance the chance that the practice will be a success. Ongoing access to technical assistance is also important at the project level, to help boost the chances for success.

Results showed a negative correlation with the variable of reinvention—in other words, the extent to which the practice is modified from its original tested form has a negative impact on success. Hence, it is important to pay attention to maintaining fidelity to the practice, and to the use of fidelity scales as part of an ongoing performance monitoring effort. At the organization level, having a learning culture within the organization is important. It takes time to build that kind of culture and give people those kinds of skills, but this can be fostered by good training and learning experiences through the CCOE. Results also showed that the relationship between the organization and the CCOE and the quality of the communication between them were crucial to implementation success.

3. All phases of the decision and implementation process are important, from the time when an agency starts thinking about an EBP, to the point where they actually decide to do it, to the time when they are implementing it. How things happen at the very beginning—back when the agency is in the thinking and discussion process—can affect whether there is success at the end. Relative advantage comes up here again—all the reasons why the agency originally thought it would be a good idea to do a particular practice. If that is really strong at the beginning—if there are lots of perceived advantages—it helps sustain the practice in the end, and maybe helps sustain people’s commitment when barriers start to arise. How the decision gets made is also important. If people in the organization feel like they have had influence, and if they feel the decision was an objective one, it helps sustain individual commitment to the practice and helps to get it embedded in the organization’s day-to-day business. It is also critical to have ongoing resources—money, personnel and time—assigned to the practice throughout the implementation phase.

4. Support the implementation over time. The successful implementation of an EBP is a long process by definition. It needs to become an ongoing part of business in an agency, therefore it needs ongoing care and feeding. Our results showed that there are a lot of things that can contribute to the early implementation being a success, and the effects of a couple of those do carry over to contribute to successful outcomes in later stages of implementation, like whether staff have the freedom to express doubts. But, and most importantly, most of them do not carry over. A critical variable here is top management support. Support at the beginning of the implementation has no impact on the later stages. Top management support for the practice is needed throughout the long, ongoing implementation for it to produce positive outcomes. Resources proved to be the same kind of variable. Dedicating money, time and personnel to the practice at the outset helps ensure early implementation success, but if those resources are not there over time, all the positive outcomes will not be there over time either.

Results to date are very encouraging in that the variables which are the most powerful predictors of evidence-based practice adoption or successful implementation are things that can be influenced by organizations and CCOEs. The presence of financial and other resources is important, but a number of other variables are equally or more important in helping ensure successful adoption and implementation and positive outcomes. The probability of success can be enhanced by affecting the thinking and decision process in an organization in a number of ways, and by watching what is happening at all the different levels that can have an impact on the process of the implementation. Doing things well at the beginning, the middle, and the whole implementation process can greatly increase the possibility for successful assimilation of a practice and for good outcomes for both the agency and its consumers.
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Paper Presentations of the Research to Date


Roth, D., Panzano, P., Crane-Ross, D. (November, 2003). *The innovation diffusion and adoption research project (IDARP): Moving from the diffusion of research results to promoting the adoption of evidence-based innovations in the Ohio mental health system*. Plenary presentation for the Ohio Department of Mental Health Research Results Briefing 2003: Knowledge to Enhance Quality in Changing Times. Columbus, OH: Ohio Department of Mental Health.


Conference on State Mental Health Agency Services Research, Program Evaluation and Policy, Baltimore, MD.

Roth, D., Panzano, P., & Crane-Ross, D. (May, 2002). *Predicting the adoption and successful assimilation of evidence-based practices by mental health service providers*. Presentation for the Ohio Program Evaluators Group Evaluators’ Exchange, Columbus, OH.

Roth, D., Panzano, P., & Crane-Ross, D. (February, 2002). *Predicting the adoption and successful assimilation of evidence-based practices by mental health service providers*. Presentation at the Twelfth Annual National Conference on State Mental Health Agency Services Research and Program Evaluation, Baltimore, MD.
Depression among the nation’s youth is a significant public health problem; between 10 and 15 percent of children and adolescents in the United States have symptoms of depression. Between 20 and 40 percent of depressed children have a recurrence of depression within two years, and 70 percent relapse in adulthood. Depression in adolescents is associated with many negative outcomes, including increased risk of suicide, interpersonal problems, and missed education and job opportunities (US DHHS, 1999).

During the past two decades, significant advances have been made in the psychological and pharmacological treatment of child and adolescent depression (Kazdin, 2004). Despite the promise of these treatments, only 20 percent of children with a serious emotional disturbance receive mental health specialty services, and only 40 percent receive any form of mental health intervention (US DHHS, 1999). While multiple factors have been associated with underutilization of mental health services, including economic disadvantage, parental psychopathology, poor school grades, and parent-reported access barriers (Flisher et al., 1997), parents’ perceptions of a child’s problems and parents’ experiences of burden related to a child’s symptoms are especially robust predictors of service use (Angold et al., 1998; Farmer & Burns, 1997; Teagle, 2002). Parents whose children are depressed are less likely to perceive the need for mental health services than are parents whose children have disruptive disorders (Wu et al., 1999). Of children and adolescents who do enter treatment, 40 to 60 percent terminate prematurely and most attend only one or two sessions (Kazdin, Holland & Crowley, 1997).

Although a number of factors have been identified that are associated with mental health service use by depressed teens, little is known about the processes by which depressed adolescents and their families seek and utilize mental health services. Furthermore, very little is known about how families manage adolescent depression whether or not they receive services. The goal of this research, therefore, is to develop a theoretical framework that describes how depressed adolescents and their families manage the illness and seek and utilize mental health services.

Methods

Grounded theory methods (Glaser, 1978) are being used to build the theoretical framework. Based on symbolic interactionism (Mead, 1931/1967), grounded theory is a method of inquiry for developing theory grounded in data that is systematically gathered and analyzed. Grounded theory methods involve overlapping processes of data collection, categorization, reduction of data, and hypotheses formation.

In grounded theory, participants are initially selected because they have knowledge of the domain being studied. Women and men between the ages of 18 and 21 living in the greater Akron, Ohio, area who experienced depression as an adolescent and, when possible, their parents or other interested adults were targeted for the sample. Because we are interested in identifying processes used to manage depression and patterns of service utilization throughout adolescence, we recruited young adults who could reflect on their adolescence in its entirety, but who were “close” enough to their adolescent experiences to have robust memories of how they experienced and managed their distress.
Qualitative methodologists suggest that between 20 and 30 participants are typical in grounded theory studies (Morse, 1994). Because we wish to identify variations in the basic psychosocial processes used by boys and girls and African-Americans and Caucasians, we anticipated the need for a minimum of 24 women (12 Caucasian and 12 African-American) and 24 men (12 Caucasian and 12 African-American). Adaptive sampling techniques (Campbell & Salem, 1999) were used to obtain a diverse community-based sample in the metropolitan Akron area. The sampling region was divided into regions on the basis of zip codes, and zip codes representing communities of varying races and socioeconomic statuses (based on US Census data) were identified. To ensure adequate depth of coverage for typically underrepresented groups (e.g., minorities, individuals living in poverty), intensive recruitment efforts were aimed at certain zip codes. In each zip code, requests for participation were made by systematically placing fliers at locations where young adults live, work, and pass through as part of their daily activities (“the daily rounds”). Because our initial recruiting strategies resulted in a predominantly Caucasian sample, we made special efforts to recruit African American young adults. Personal contact with community leaders by the African American member of our research team was the most successful strategy used to recruit this group.

The study announcements included information about the study, a statement indicating that the participants would be paid $35 per interview, and a toll-free number through which to contact the investigators. The fliers listed common symptoms of depression and indicated that we sought men and women between the ages of 18 and 21 who had experienced depression or depressive symptoms as an adolescent.

Potential participants called the toll-free number listed on the study announcements and heard a message that reviewed the requirements, benefits, and risks of participation in the study. They were asked to leave a telephone number (or another way to be contacted) if they were interested in participating. One of the research associates returned the call, answered questions, and conducted a brief phone interview to ensure the caller met inclusion criteria and to screen out any individuals who might be experiencing acute emotional distress that would make participation risky. Interview appointments were then set up with one of the research associates.

Interviews were held at Kent State University, Akron University, and at other neighborhood sites (i.e., churches, community agencies) that were safe and accessible for participants. In an open-ended interview, participants were asked to describe their depression, the ways in which they managed or coped with their depression, and their experiences with mental health services. After this phase of the interview was completed, the research associate administered the depression module of the Diagnostic Interview Schedule, DIS-IV (Robins et al., 1999) to obtain a systematic description of the clinical nature and course of the depression experienced by the participants. Several parents of depressed teens and professionals who work with depressed teens were also interviewed. All interviews were audiotaped and transcribed.

The research team, including the PI and the research associates, are currently analyzing the data using the grounded theory method (Glaser, 1978). To date, we have held six team meetings dedicated primarily to data analysis. Prior to each meeting, the team members were given four transcripts to review individually (all team members reviewed the same transcripts). The team members completed a “text analysis” worksheet for each transcript to record what they believed the narrative data revealed about management strategies and service utilization patterns. During the team meeting, each individual shared her text analysis and group discussion ensued. The project manager took minutes reflecting these meetings and recorded emerging themes and categories. Data analysis and construction of the theoretical framework is still in progress.
Sample

Fifty-two \((n = 52)\) young adults between the ages of 18 and 21 participated in the project. Seventeen \((n = 17)\) were male (9 African American and 8 Caucasian) and 35 were female (15 African American and 20 Caucasian). Almost half \((44\%, n = 23)\) were students, 13 percent \((n = 7)\) were unemployed, and the rest reported a variety of occupations including retail sales, healthcare worker, food service worker, and entertainer. The majority of young adult participants \((90\%, n = 47)\) reported an annual income of under $15,000. Most \((94\%, n = 47)\) were single. Five of the participants had one child and three were pregnant. On the DIS, 43 participants \((83\%)\) met criteria for a DSM-IV mood disorder as adolescents, the most common being Major Depressive Disorder (MDD) \((42\%, n = 22)\), followed by Dysthymic Disorder (DD) \((23\%, n = 12)\). Six participants \((12\%)\) met criteria for both MDD and DD and three met criteria for Depressive Disorder not Otherwise Specified. Few participants were depressed when we interviewed them; in the year prior to the interview, only seven participants met criteria for MDD and one participant met criteria for Dysthymic Disorder. Three mothers (2 Caucasian and 1 African American) and one father (Caucasian) were interviewed. In addition, eight professionals who work with youth in a variety of capacities, including teacher, coach, nurse, case manager, and youth minister were interviewed.

Preliminary Findings

Grounded theory is used to “learn how people manage their lives in the context of existing or potential health challenges” (Schreiber, 2001, p. 57) by determining how they “understand and deal with what has happened to them through time and in changing circumstances” (p. 57). The assumption is that those who share a problematic situation, called a basic psychosocial problem, engage in common psychosocial processes to resolve or respond to the situation. A psychosocial process is a progressive pattern of actions/interactions by individuals in a similar life situation. In this study, grounded theory analysis is being used to describe the psychosocial problems and processes common to depressed adolescents and their families.

Our findings indicate that teens who are depressed struggle to feel connected with, anchored by, or guided by important people in their lives. While the topic of the study is adolescent depression, the narratives were about significant disruptions in relationships. The participants described the experience of adolescent depression as a painful drifting through life because interpersonal connections that might ground them or direct them elude them. We concluded, therefore, that the basic psychosocial problem of teens who are depressed is being adrift, that is, “freely floating without being steered; not anchored; drifting...” (Guralnik, 1976). The resolution to the psychosocial problem of being adrift is a psychosocial process we have labeled becoming settled. There are several meanings of the word “settled” that we believe particularly capture the commonalities of the narratives that describe how teens manage and even move beyond the depression. To settle means “to make stable or permanent, to establish,” “to free from disturbance, calm, or quiet,” or “to migrate to and set up a community,” (Guralnik, 1976). For depressed teens, becoming settled is a process whereby they respond to the problem of being adrift by establishing connections with people who matter to them, finding a comfortable place in their social world, and, with the help of others, gaining a sense or direction or purpose.

Being adrift and becoming settled occur in the context of complex, shifting, and multi-dimensional relationships. Three groups played important roles in the participants’ narratives: important adults, including parents, caretakers, school personnel, and other professionals who work with youth; peers, and the therapeutic community. Problematic dynamics with individuals in each of these groups contribute to the teens being adrift, and, similarly, facilitative dynamics with individuals in each of the groups play a key role in the depressed teens becoming settled.
The Theoretical Framework to be Developed

A theoretical framework is being devised to describe the psychosocial problem of being adrift and the psychosocial process of becoming settled in the lives of depressed teens. Because the participants’ narratives were predominantly about important people in their lives, we concluded that adolescent depression occurs in the context of, and, in fact, is frequently defined by, interpersonal relationships. Therefore, for each of the three groups identified above (important adults, peers, therapeutic community), we will construct a “relational strand” in the framework. Each strand will depict three psychosocial processes whereby a depressed teen moves from being adrift to becoming settled in the context of their relationships with that group.

Our analysis is ongoing and we are currently devising the theoretical framework. However, to provide an example of how the theoretical framework will be developed, we have provided a preliminary depiction of the teen/adults relational strand. Table 1 depicts this strand and highlights the three psychosocial processes by which teens move from being adrift to becoming settled in the context of their relationships with important adults. The processes are maintaining the façade, poking holes in the façade, and breaking down the façade. The reciprocal interaction patterns that comprise each process and the strategies teens and adults use for these interactions are also depicted. These elements of Table 1 are briefly described below.

Table 1: Relationships between Teens and Important Adults

<table>
<thead>
<tr>
<th>BEING ADRIFT</th>
<th>BECOMING SETTLED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maintaining the Façade</strong></td>
<td><strong>Breaking through (Adults)</strong></td>
</tr>
<tr>
<td>Concealing (Teens)</td>
<td>Revealing the whole story</td>
</tr>
<tr>
<td>Holding it in</td>
<td>Drawing them out</td>
</tr>
<tr>
<td>Pretending to be normal</td>
<td>Being there for them</td>
</tr>
<tr>
<td>Blocking them out (Adults)</td>
<td>Not paying attention</td>
</tr>
<tr>
<td></td>
<td>Squelching their voices</td>
</tr>
<tr>
<td>Poking Holes in the Façade</td>
<td></td>
</tr>
<tr>
<td>Hinting (Teens)</td>
<td>“Kind of” knowing (Adults)</td>
</tr>
<tr>
<td>Raising red flags</td>
<td>Picking up on something</td>
</tr>
<tr>
<td>Dropping clues</td>
<td>Noticing, but missing the mark</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Breaking Down the Façade</td>
<td></td>
</tr>
<tr>
<td>Reaching out (Teens)</td>
<td></td>
</tr>
<tr>
<td>Revealing the whole story</td>
<td></td>
</tr>
<tr>
<td>Being themselves</td>
<td></td>
</tr>
</tbody>
</table>
Maintaining the Façade. All the narratives contained descriptions of how teens who are depressed and/or important adults in their lives at one point ignore, hide, or minimize the teens’ distress. Because being depressed or otherwise emotionally disturbed is “not normal” and being seen as “not normal” has so many potential negative consequences in our society, especially exclusion and stigma, teens and adults engage in a reciprocal process of maintaining the façade of normality. To maintain the façade, teens conceal their depression, either by holding in their distress or by pretending to be normal, while the adults block out awareness of the teens’ depression, either by not paying attention to the teen or by squelching the teens’ expression of emotions. The process of maintaining the façade inhibits teens from obtaining the help they need to manage or recover from their emotional or social problems, including depression.

Poking Holes in the Façade. Many of the narratives included stories in which depressed teens begin to share some of their distress, while important adults become somewhat aware of their problems. The teens and adults engage in the reciprocal process of poking holes in the façade; that is, they begin to acknowledge a problem, albeit indirectly. Although the teens’ disclosures are tentative and veiled and the adults only “sort of” respond to the teens’ depression, the teens and adults do begin to connect around the teens’ distress. To poke holes in the facades, the teens hint at their distress by raising red flags (engaging in behaviors reflective of their dark moods) and dropping clues (articulating their distress in an indirect or incomplete manner) and adults “kind of” come to know what the teen is experiencing by picking up on something (indicating an awareness that something is wrong without mentioning depression) and by noticing, but missing the mark (acknowledging the depression but not its gravity).

Breaking Down the Façade. Narratives in which teens heal or recover from depression contain descriptions of how the teens and adults at some point fully acknowledge the teen’s distress and therefore form a meaningful connection with the mutual goal of getting the teen help. Such connections occur when the teens and adults engage in the mutual process of breaking down the façade. To break down the façade, the depressed teen reaches out in some way to an adult, while the adult finds ways to break through the teen’s armor. Teens reach out to adults by revealing the whole story (what they are really experiencing) and by being themselves, and adults break through to teens by finding ways to draw them out (directly encouraging a teen to reveal his/her real thoughts and feelings) and by being there for them through the tough times.

In the final framework, we also will develop teen/peers and teen/therapeutic community-relational strands and depict how the teens’ relationships with all three groups are closely intertwined. By explicating the nature of these complex relationships, we hope to identify processes that hinder or facilitate teens in managing their depression and successfully utilizing mental health services. We will further analyze the data to explore the influence of gender and ethnicity on the psychosocial processes.

REFERENCES


**Paper Presentations of the Research to Date**

Movement of people with serious mental illness from hospitals to the community has resulted in an increase in interactions between people with mental illness and the criminal justice system, including police officers and the courts. We are in the process of examining the effects of implementing two programs in Summit County: 1) a Crisis Intervention Team Program (CIT), to enhance safe and effective interactions between people with mental illness who are in crisis and the Akron Police Department (APD) and 2) a Mental Health Court program, which is implemented jointly between the Akron Municipal Court and Community Support Services.

We designed three studies to assess different aspects of these pre- and post-arrest diversion programs. The effects of these programs on consumers and police officers are being assessed using labeling theory and the associated concepts of stigma and social distance. This conceptual orientation is used in a longitudinal study of individuals with mental disorders to explain hypothesized negative consequences of arrest versus diversion. The concepts of stigma and social distance are being used in a study of police officers to better understand the correlates of attitudes of the police toward mentally ill individuals, and to assess the effects of training on such attitudes. Finally, the handling and disposition of mental disturbance calls and the characteristics of those in crisis are being assessed as they affect disposition.

This theoretically grounded research provides a unique opportunity to understand the consequences of diversion programs and their effects on consumers, police, and community systems of care as well as to inform best clinical practices. The results of this research will also provide needed information that will be used to plan for the effective introduction of similar programs in the State of Ohio and across the country. The theoretical analysis of consequences of diversion, officers’ beliefs and opinions, and the extent to which attitudes are shaped by the program and experiences should be of academic as well as applied value. They will contribute to the literature on psychosocial aspects of mental disorders and will also help researchers who are working on ways to implement interventions to modify attitudes and opinions about people with mental illness. The outcome assessment studies serve to aid in the planning of which interventions to implement. Finally, studies such as ours will contribute to increasing the level of best clinical practices.

**Background**

Five factors have contributed to an increase in interactions of people with mental illness and the criminal justice system: deinstitutionalization, criminalization, trans-institutionalization, situational variables, and attitudinal variables. The locus of care of people with serious mental illness has successfully and dramatically shifted from primarily institutional settings at mid-century to largely
community-based settings (Grob, 1991, 1994; Mechanic, 1986). While this shift, referred to as deinstitutionalization, has created opportunities for many people with mental disorders to live successfully in our communities, it has also created great challenges for those with serious mental illness and the communities trying to foster their recovery. Individuals living in the community with serious mental disease face many difficulties including poverty, under-employment, homelessness, and criminal victimization (Dowdall, 1999; Morrissey, 1999). In addition, many individuals are at increased risk of substance abuse and dependence (Kessler & Zhao, 1999). These factors contribute to the increased risk of being arrested and incarcerated. This phenomenon, often referred to as the criminalization of the mentally ill, is a national problem (Hiday, 1991, 1999; Munetz, Grande, & Chambers, 2001; Teplin, 1984b; Teplin, Abram, McClelland, Dulcan, & Mericle, 2002; Torrey et al., 1992).

Trans-institutionalization refers to the dramatic decrease in the use of state psychiatric hospitals and the dramatic increase in the number of inmates who are mentally ill in the nation’s jails and prisons (Denckla & Berman, 2001). For example, in the state of Ohio in 1996 there were approximately 5,000 mentally ill prisoners which increased to 6,393 by March 2000, almost half of whom were severely mentally disabled (SMD) (Ludlow, 1996; Ohio Department of Rehabilitation and Corrections, 2000). In contrast, there were only 1,200 SMD patients in Ohio state hospitals. Thus, there are more SMD people in prisons than in hospitals in Ohio. Summit County has experienced a large decrease in the bed utilization and admission rates of people with severe mental illness to the state hospital. During the period 1988 through 1996, the admission rate declined drastically while the county experienced both a relative and an absolute increase in the number of forensic patients (patients found not guilty by reason of insanity or incompetent to stand trial). Currently, statewide approximately half of all beds in Ohio’s state hospitals are occupied by individuals who are there on a forensic status.

Situational variables are the result of interactions between police officers and individuals with mental illness in crisis. These variables depend on the amount of discretion the officers may have, the options outside the criminal justice system available to the officers, and the degree of knowledge that police officers have about these options. (Green, 1997; Patch & Arrigo, 1999). The options available to officers outside the criminal justice system will also affect the disposition of the case (Teplin, 1984a, 2000; Teplin & Pruett, 1992).

In addition to situational variables affecting outcome, officers bring to the interaction attitudes and beliefs about mental illness that may affect the disposition, which we label attitudinal variables. A belief that mental illness is a life-long process may result in transport to a psychiatric emergency room or referral to a mental health facility instead of arrest or even a “no action” disposition. Characteristics of the officers can affect perceptions of a person who is mentally ill, and who may also be a substance abuser. These perceptions can influence whether they believe that the person is violating a code or law and should be arrested, is in medical crisis and should be brought to a hospital, is mentally ill and should be brought to a psychiatric facility, or whether they should be left alone.

Research Questions

As briefly mentioned above, there are three studies in this research program. Study 1 is the study of consumers who either used the local psychiatric emergency services or had interactions with the police and court system. Participants are interviewed using a questionnaire which is designed to assess the effects of jail diversion on services received and perceived stigma, and to assess the effects of services received and stigma on long-term outcomes. In addition, the processes (e.g., mastery, self-esteem, social support) by which the receipt of services and stigma affect quality of life, depression, and subsequent encounters with the police will be investigated.
Study 2 is the study of police officers and involves a self-administered questionnaire, which was presented prior to CIT training to both baseline and pre-CIT training officers and to officers who had CIT experience to determine if training and experience result in fundamental changes in officers’ attitudes and beliefs about mental illness and mentally ill individuals in crisis. The purpose of this study is to examine police officers’ perceptions of the program’s effectiveness, the police officers’ opinions about mental illness, and the police officers’ attitudes toward people with mental illness.

Study 3 is the study of already existing aggregate data. The sources of the data include the Summit County ADM Board, the Akron Police Department, the Akron Municipal Court and its Probation Department, Psychiatric Emergency Services, the Summit County Sheriff Department, and Community Support Services. The purpose of this study is to determine the effects, if any, of the implementation of the mental health court program and the CIT program in the handling and disposition of mental disturbance calls by CIT and non-CIT trained officers as well as to examine the characteristics of consumers in crisis that may influence disposition. The following discussion will be centered upon some preliminary results from Studies 2 and 3.

**Police Conceptions of Mental Illness: Labels, Causes, Dangerousness, and Social Distance (Study 2)**

Police-based specialized police response has been forwarded as a solution to the problems of trans-institutionalization and criminalization of mentally ill individuals. The concept is one of pre-arrest diversion to mental health services for those people who are in need but not criminally liable for their actions. As the police are often the first responders to a crisis involving violence or a mental health emergency, it is anticipated that such police response will reduce the number of incidents and people who participate in what has been termed the revolving door of the criminal justice system.

One such program of training for police-based specialized police response teams has been based on the Memphis, Tennessee, Crisis Intervention Training (CIT) program. In this program, forty hours of training involving recognition of characteristics of mental illness, techniques to de-escalate situations involving those with mental illness, and information concerning community resources for those with mental illness are given. The Akron (Ohio) Police Department, in conjunction with the Summit County Alcohol, Drug Addiction, and Mental Health Services (ADM) Board and the Summit County Chapter of the National Alliance of the Mentally Ill (NAMI), began a CIT program in June 2000 to address the needs of the community for prudent use of resources (such as police time and jail beds) and the needs of individuals with mental illness.

**Data and Methods.** At the beginning of the first day of training, researchers presented a questionnaire to participating officers (Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999; Martin, Pescosolido, & Tuch, 2000; Penn, Kommana, Mansfield, & Link, 1999). The self-administered questionnaire took about twenty minutes for the officers to complete. In addition to answering demographic questions, officers answered questions about their perceptions, the causes, and social distances on a vignette concerning a person with mental illness (schizophrenia). Other Akron officers, not participating in training at that first session, were also surveyed to discern if there were differences in the baseline perceptions of those with mental illness prior to the training program. Subsequent (2001, 2002, 2003) CIT classes were also surveyed with the addition of questions concerning previous exposure to people with mental illness. Attempts were made to survey each class of officers each year after training, however response was low and researchers were not successful until re-training June 2003.

Three groups of officers were examined: baseline (those who did not participate in training and the questionnaire was administered June 2000 before any CIT training), pre-trained CIT (those who participated in training and the questionnaire was administered at the start of training), and post-trained CIT (re-administered questionnaires for officers who had been trained at least one year prior to the
Table 1 examines the sociodemographic variables (number of encounters with people with mental illness in crisis during the last thirty days, years as an Akron police officer, rank, age, and race) by group. As shown in Table 2, there are no significant differences between the groups, though not surprisingly the CIT post-training group averaged more encounters in the thirty days before administration of the questionnaire than the other two groups. The Social Distance (6) measure could range from 6 through 24. There are statistically significant differences between the groups, with the officers who were not trained in 2000 expressing a preference for greater social distance than either of the other two CIT groups. The group of CIT officers who were at least one year post-training expressed a preference for the least social distance. The Social Distance (5) measure could range from 5 through 20 and demonstrates the same pattern as the Social Distance (6). There are no statistically significant differences between the three groups in perception of danger, though the not-trained officers had a higher perception of danger than the CIT officers pre-training, who had a higher perception of danger than the post-training CIT officers.

Table 1. Means and Standard Deviations of Sociodemographic Variables

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>Not trained</th>
<th>CIT pre-training</th>
<th>CIT post-training</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Mean</td>
</tr>
<tr>
<td>Number of encounters with people with mental illness in crisis during the last 30 days</td>
<td>6.04</td>
<td>6.86</td>
<td>7.38</td>
</tr>
<tr>
<td>Years as an Akron Police Officer</td>
<td>5.18</td>
<td>3.23</td>
<td>5.77</td>
</tr>
<tr>
<td>Rank (1 = Patrolman)</td>
<td>.94</td>
<td>.23</td>
<td>.82</td>
</tr>
<tr>
<td>Respondent Age</td>
<td>32.61</td>
<td>6.33</td>
<td>33.27</td>
</tr>
<tr>
<td>Race (1 = white)</td>
<td>.80</td>
<td>.40</td>
<td>.82</td>
</tr>
</tbody>
</table>

Attributions of the causes of the mental health problem of the vignette’s subject show statistically significant differences in the perception of the likelihood that the person is experiencing a nervous disorder with not-CIT-trained officers believing that it is more likely than the pre-trained officers who thought the likelihood of a nervous disorder higher than the post-trained officers. The same pattern is reflected in the perception of the likelihood that the person’s situation is caused by the way he was raised or by his bad character. Not-trained officers perceived both as more likely than pre-trained officers, who thought both more likely than post-trained officers.

Discussion. Results indicate that the baseline officers were more socially distant from those with mental illness in comparison to those officers who were CIT trained. The perception of dangerousness was positively associated with social distance. Training affected perception of dangerousness and the perceptions of causes of schizophrenia. The results indicate that the effects of training have a significant effect on the attitudes and perceptions of the officers towards those with mental illness.

Police Response to Mental Illness: Diversion or Arrest? (Study 3)

The goals of the CIT program are to increase officer, patient, and overall community safety by better preparing officers to handle crises involving persons with mental illness. Additionally, the program aims to make the mental health system more understandable to the police and to make the mental health system maximally responsive to law enforcement. These goals require appropriate referral of individuals in need.
to the mental health treatment system, improvement of access to the public mental health system to people in need, and reduction in the incarceration rate of mentally ill people in need of treatment (Steadman, Deane, Borum, & Morrissey, 2000). The result of interactions between police officers and individuals with mental illness in crisis depends on the amount of discretion the officers may have, the options outside the criminal justice system available to the officers, and the degree of knowledge that police officers have about these options. When officers believe that a person has committed a felony they may feel that arrest is mandatory. In this case, the desired outcome is an end to the crisis without injury to either party. More often, however, the offense is such that police officers do have discretion and may choose among arrest, informal dispositions, in which no formal action is taken (counsel and release, advise, or no action), or transport to a medical or psychiatric facility (Green, 1997; Patch & Arrigo, 1999). The officers are trained to recognize symptoms of mental illness and to decide on which option will best serve the individual.

Table 2. Means and Standard Deviations of Study Measures by Group

<table>
<thead>
<tr>
<th>Measures</th>
<th>Not trained</th>
<th>CIT pre-training</th>
<th>CIT post-training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Distance (6)</td>
<td>19.62</td>
<td>18.59</td>
<td>17.10</td>
</tr>
<tr>
<td>Social Distance (5)</td>
<td>16.79</td>
<td>15.58</td>
<td>14.80</td>
</tr>
<tr>
<td>Danger Scale</td>
<td>21.42</td>
<td>20.70</td>
<td>20.12</td>
</tr>
<tr>
<td>How likely is it that John is experiencing a mental illness</td>
<td>3.62</td>
<td>.64</td>
<td>.44</td>
</tr>
<tr>
<td>How likely is it that John is experiencing a physical illness</td>
<td>2.14</td>
<td>.86</td>
<td>.87</td>
</tr>
<tr>
<td>How likely is it that John is experiencing a nervous disorder</td>
<td>2.96</td>
<td>.91</td>
<td>.83</td>
</tr>
<tr>
<td>How likely is it that John's situation caused by his own bad character</td>
<td>1.59</td>
<td>.80</td>
<td>.51</td>
</tr>
<tr>
<td>How likely is it that John's situation is caused by a chemical imbalance in the brain</td>
<td>3.50</td>
<td>.63</td>
<td>.70</td>
</tr>
<tr>
<td>How likely is it that John's situation is caused by the way he was raised</td>
<td>2.05</td>
<td>.94</td>
<td>.79</td>
</tr>
<tr>
<td>How likely is it that John's situation is caused by stressful circumstances in his life</td>
<td>3.07</td>
<td>.65</td>
<td>.57</td>
</tr>
<tr>
<td>How likely is it that John's situation is caused by a genetic or inherited problem</td>
<td>2.88</td>
<td>.78</td>
<td>.71</td>
</tr>
<tr>
<td>How likely is it that John's situation is caused by God's will</td>
<td>1.35</td>
<td>.84</td>
<td>.79</td>
</tr>
</tbody>
</table>

The Summit County ADM system is well situated to be responsive to the needs of individuals in crisis. The ADM Crisis Center houses emergency programs open 24 hours per day, 365 days per year. The ADM Board has encouraged what it calls a “no wrong door” approach such that police officers are not responsible for determining if problems are primarily related to mental illness or substance abuse. If a patient is found to be on the wrong floor (e.g. in need of emergency mental health rather than emergency detoxification) the two programs arrange an internal transfer. Referral sources are not required to have the technical expertise to make such determinations prior to arrival at the Crisis Center.

Data and Methods. The first data set we are using is the APD Dispatch data set. The dispatch information on the number of all calls and officer injuries and the dispatch information on Signal 43 (suspected mental illness) and Signal 30 (suspected suicide) calls from May 1998 (25 months prior to the implementation of the CIT program) to the present were made available to the research team. The
research team took the qualitative dispatch notes and created a quantitative data set to expand the quantitative data already included. The dispositions of the calls were determined by review of the notes entered by the dispatchers for the police and EMS. Each of the 8,165 calls were reviewed by members of the research team to determine where the person involved was first taken and each call was checked several times. The possibilities for disposition included Psychiatric Emergency Services (PES) or the emergency room at one of the six area hospitals.

The second data set we are using to explore the effects of training on dispositions is the CIT “stat sheets.” CIT-trained officers are requested to complete "stat sheets" after each encounter where they suspect the person of being mentally ill. The encounter may or may not have been coded as a Signal 43/30 call. The stat sheets were collected and made available to the research team. All identifying information concerning the subjects was removed. For the period from June 2000 to December 2002, the research team had 1,257 stat sheets from which to work. One of the purposes of the stat sheets is to document for the ADM board those with mental illness who have interactions with the criminal justice system and to appropriately refer individuals in need to the mental health treatment system. Of the 1,257 stat sheets, there were 21 different response codes listed. Of the response codes, six of the codes comprised 1,105 or about 88 percent of the 1,257 stat sheets. The codes were: person suspected of mental illness, suspected suicide attempt, fight, suspicious person, meet a person, get a report. The results discussion will concentrate only on these 1,105 stat sheets.

Results: APD Dispatch Data. During the five-year time period of June 1998 through May 2003, over 1.2 million calls were received by the Akron Police Department, which is approximately 250,000 calls/year. Calls were coded by the dispatcher. Table 3 represents only two of the codes: signal 43 (person suspected of having a mental illness) and signal 30 (suspected suicide attempt). During this time period, 8,165 calls were coded as Signal 43 or Signal 30. The average number of APD calls was constant over the five years of the study (Table 3), though demonstrating cyclical seasonal variation over the months of the year (data not shown). Signal 43/30 calls accounted for less than one percent of all APD calls. The number of Signal 43/30 calls began increasing in Year 4 (one year after the beginning of the CIT program) and further increased in Year 5 as shown in Table 3. The proportion of total APD calls that were dispatched as Signal 43/30 therefore also increased over the five years of the study (see Figure 1). There was an absolute and proportional increase in the number of Signal 43/30 calls.

Table 3. Akron Police Department: Selected Statistics

<table>
<thead>
<tr>
<th></th>
<th>Average number of calls per month</th>
<th>Average number of Signal 43/30 calls per month</th>
<th>Average rate of Signal 43/30 calls per 1,000 per month</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1998 through May 1999</td>
<td>21084</td>
<td>128</td>
<td>6.059</td>
</tr>
<tr>
<td>June 1999 through May 2000</td>
<td>21438</td>
<td>123</td>
<td>5.745</td>
</tr>
<tr>
<td>June 2000 through May 2001</td>
<td>21108</td>
<td>127</td>
<td>6.013</td>
</tr>
<tr>
<td>June 2001 through May 2002</td>
<td>20670</td>
<td>139</td>
<td>6.728</td>
</tr>
<tr>
<td>June 2002 through May 2003</td>
<td>21440</td>
<td>163</td>
<td>7.588</td>
</tr>
<tr>
<td>Total</td>
<td>21148</td>
<td>136</td>
<td>6.426</td>
</tr>
</tbody>
</table>

aAPD calls n = 1,268,886; Mental disturbance calls n = 8,165. bAnalysis of variance F = 12.072, significance .000
One of the questions examined was whether there would be an increase in the number of signal 43/30 calls once the CIT program was implemented. As demonstrated in Table 3, from June 2000 on, there was an increase in the rate per 1,000 calls of the signal 43/30 calls. It may be that once the CIT program was in place, the dispatchers were more likely to ask questions and determine if the call involved a person with mental illness. It is also possible that with publicity of the CIT program, callers were more likely to identify the person involved as having mental illness. Lastly, officers at the scene may have been more likely to recognize the person involved as having a mental illness and to request that the code reflect this.

There were fifteen possible dispositions of the 8,165 signal 43/30 calls handled over the five years. Almost one fourth of the people involved were taken to PES, with fewer taken to the local hospitals. Jail was a destination for 207, or 2.5 percent of the calls. A few people were arrested, but were first taken to the hospital; those people are counted in the hospital category, because, again, the focus is on where the people involved were first taken. Less than one percent were taken to a detox facility. The “other” category includes people who were taken some place, but not to one of these categories (e.g., to a gas station or home). “No call for complaint” is a disposition meaning that when the officers responded they found that the event was not significant. “No police interaction” means that they were unable to find the people who were the subject of the dispatch. “Unknown disposition” means that it was not possible to determine from the notes what transpired. “Police interaction but no need for transport” includes events such giving advice, assisting, talking to the people, or in general having some kind of interaction to diffuse the situation, but without transporting the person. This is a category of interest because it means that there was some event occurring that warranted police attention. In these cases, the officers would make decisions either to dispense advice, handle the event at the scene, or try to encourage the person to go for evaluation and/or treatment at PES or the area hospital emergency room. Nearly thirty percent of the events fell into the “police interaction but no need for transport” category.
One of the research questions is whether the disposition of a call differed as a function of whether it was handled by a CIT or a non-CIT officer. There were three coding possibilities for which agency handled the call: EMS, APD, or some other agency such as the coroner. The coding choices were made by reviewing both the APD and Fire Notes sections of the APD dispatcher logs and an additional field of police codes. The treatment dispositions involved combining transportation to PES and transportation to another location such as area hospitals or detox facilities, jail, and police interaction with no need for transport. Other categories were excluded from the analysis. The number of cases is reduced, as 1,061 calls over the five-year period of interest were handled by some other agency (such as the coroner) and are not included in the analysis.

Table 4 is a cross-tabulation of the four categories of disposition by the two categories of who handled the call. Figure 2 examines only the APD-handled calls and breaks out the dispositions by the time periods truncated to Pre-CIT training, Post-CIT training with non-CIT officers, and Post-CIT training with CIT officers. Of interest is that CIT officers were more likely than non-CIT officers to either transport to treatment or to jail. Training effects can explain the difference in treatment transport between CIT and non-CIT officers. Recognizing the symptoms of mental illness and awareness of the options available for treatment are part of the CIT training. The specialized training emphasizes verbal de-escalation techniques that officers can use to safely and effectively help persons with mental illness who are in crisis. Linkage and referral for care to the mental health system is emphasized as a preferable alternative to arrest when the behavior is non-violent and thought to be the result of symptomatic mental illness.

Table 4. Dispositions of Signal 43/30 Calls in Three Categories, Handled by APD or EMS

<table>
<thead>
<tr>
<th>Handled by</th>
<th>APD</th>
<th>EMS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>1551</td>
<td>3019</td>
<td>4570</td>
</tr>
<tr>
<td></td>
<td>44.6%</td>
<td>83.2%</td>
<td>64.3%</td>
</tr>
<tr>
<td>Jail</td>
<td>207</td>
<td>0</td>
<td>207</td>
</tr>
<tr>
<td></td>
<td>6.0%</td>
<td>0.0%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Police interaction but no need for transport</td>
<td>1719</td>
<td>608</td>
<td>2327</td>
</tr>
<tr>
<td></td>
<td>49.4%</td>
<td>16.8%</td>
<td>32.8%</td>
</tr>
<tr>
<td>Total</td>
<td>3477</td>
<td>3627</td>
<td>7104</td>
</tr>
<tr>
<td></td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Possible explanations for the difference in “no need for transport,” in addition to the effects of training, include the police dispatchers being more selective in where the CIT trained officers are sent. This may be an explanation for the higher jail transport for CIT officers. If they are involved with the more difficult calls, there may be more frequent instances where the officers do not have the choice to treat but must arrest. There are certain behaviors for which the police do not have discretionary choice. We may be observing a “floor” effect, that is, CIT officers may be diffusing situations but are still required to arrest. We also examined the work shift when these instances occurred and did not find any significant differences in the action taken by the police. Table 5 examines the treatment categories \( n = 1551 \) to determine that CIT officers are more likely to transport the patients voluntarily than the non-CIT trained officers, an indication of the effectiveness of training, specifically de-escalation techniques.
Figure 2. Dispositions of Signal 43/30 Calls by time and training.

Table 5. Voluntary vs. Involuntary Treatment by Time and Training$^a$

<table>
<thead>
<tr>
<th>Program</th>
<th>Pre-CIT</th>
<th>Post-CIT - Non-CIT Officers</th>
<th>Post-CIT - CIT Officers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voluntary</td>
<td>464</td>
<td>530</td>
<td>447</td>
<td>1441</td>
</tr>
<tr>
<td>Involuntary</td>
<td>53</td>
<td>38</td>
<td>19</td>
<td>110</td>
</tr>
<tr>
<td>Total</td>
<td>517</td>
<td>568</td>
<td>466</td>
<td>1551</td>
</tr>
</tbody>
</table>

$^a$Chi square significance .001

Results: CIT Stat Sheets. Table 6 shows the distribution of the calls for the five major codes. Note that the majority of the calls (about 77 percent) were coded as suspected mental illness or suspected suicide, with the remainder of the calls having been coded by the dispatchers with another code. Table 7 describes the sample. About six percent were arrested. Ten percent were injured prior to the police encounter, while a little over one percent were injured during the encounter. Table 8 examines the dispositions of the calls. The most common disposition (41 percent) reported on the stat sheets was to PES, while 31 percent was to the hospitals’ emergency rooms.
Table 6. CIT Stat Sheets Response Codes ($n = 1105$)

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspected mental illness</td>
<td>533</td>
<td>48.2</td>
</tr>
<tr>
<td>Suspected suicide</td>
<td>314</td>
<td>28.4</td>
</tr>
<tr>
<td>Fight</td>
<td>130</td>
<td>11.8</td>
</tr>
<tr>
<td>Suspicious person</td>
<td>60</td>
<td>5.4</td>
</tr>
<tr>
<td>Meet person</td>
<td>47</td>
<td>4.3</td>
</tr>
<tr>
<td>Get report</td>
<td>21</td>
<td>1.9</td>
</tr>
</tbody>
</table>

Table 7. CIT Stat Sheets Descriptive Statistics ($n = 1105$)

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage Female</td>
<td>43.4</td>
</tr>
<tr>
<td>Percentage Black</td>
<td>33.5</td>
</tr>
<tr>
<td>Average age of suspect in years</td>
<td>37.3</td>
</tr>
<tr>
<td>Percentage Arrested</td>
<td>6.2</td>
</tr>
<tr>
<td>Percentage Injured prior to encounter</td>
<td>10.0</td>
</tr>
<tr>
<td>Percentage Injured during encounter</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Table 8. CIT Stat Sheets Dispositions of Calls ($n = 1105$)

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>pink slip PES</td>
<td>227</td>
<td>20.5</td>
</tr>
<tr>
<td>voluntary PES</td>
<td>222</td>
<td>20.1</td>
</tr>
<tr>
<td>voluntary hospital ER</td>
<td>174</td>
<td>15.7</td>
</tr>
<tr>
<td>pink slip hospital ER</td>
<td>162</td>
<td>14.7</td>
</tr>
<tr>
<td>referred outpatient MH</td>
<td>86</td>
<td>7.8</td>
</tr>
<tr>
<td>subject stabilized no further action</td>
<td>69</td>
<td>6.2</td>
</tr>
<tr>
<td>arrested plus other events</td>
<td>68</td>
<td>6.2</td>
</tr>
<tr>
<td>other disposition</td>
<td>43</td>
<td>3.9</td>
</tr>
<tr>
<td>ems handled</td>
<td>37</td>
<td>3.3</td>
</tr>
<tr>
<td>complaint unfounded</td>
<td>16</td>
<td>1.4</td>
</tr>
<tr>
<td>not indicated</td>
<td>1</td>
<td>.1</td>
</tr>
</tbody>
</table>

Table 9 looks at the techniques of the officers. One of the stressed aspects of training is to utilize verbal de-escalation techniques to defuse an encounter. The officers reported that almost 89 percent of encounters used verbal de-escalation techniques. The use of verbal de-escalation techniques has increased over time (data not shown). Few encounters required the use of handcuffs to restrain the suspects and this use decreased over time (data not shown).
Table 9. Techniques used by Officers (n = 1105)

<table>
<thead>
<tr>
<th>Percentage of Encounters</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>verbal de-escalation techniques used</td>
<td>88.6</td>
</tr>
<tr>
<td>taser presented, sighted, or fired</td>
<td>5.2</td>
</tr>
<tr>
<td>handcuffs used</td>
<td>14.8</td>
</tr>
</tbody>
</table>

Discussion. The rate of signal 43/30 calls per 1,000 calls per month has increased since the implementation of the CIT program. This may indicate a diffusion of information concerning the symptoms of mental illness as a direct result of the training program for officers. Additionally, CIT officers transport to treatment more frequently, have fewer calls with no transportation, and arrest more frequently than both pre-and post-training time non-CIT officers. CIT officers transport to treatment a larger percentage of people voluntarily and a smaller percentage involuntarily than both pre-and post-training time non-CIT officers. CIT officers use the stat sheets as designed to alert others about people who may have mental illnesses and/or who may need services. The officers show no differences over time in the number of arrests or involuntary transport. CIT officers use verbal de-escalation techniques in most encounters and rarely use handcuffs or tasers. Use of verbal de-escalation techniques has increased and use of handcuffs has decreased over time.

Conclusions

The results provide a preliminary assessment of the effects of pre-arrest diversion programs. The program has an effect on behaviors, attitudes, and interactions in both anticipated as well as unanticipated ways. Further study is required to continue to disentangle the effects and to be able to translate the program for successful implementation in other communities.

REFERENCES


Other Publications of the Research to Date


Paper Presentations of the Research to Date


Ritter, C., Teller, J.L.S., Muntez, M.R., & Rodriguez, M.S. (2005, March). The impact of diversion programs on consumers of mental health services. The All-Ohio Institute on Community Psychiatry, Beyond Evidence: Trauma, Treatment, Resilience and Recovery in Community Mental Health Services, Cleveland, OH.


The authors would like to express their appreciation to the Akron Police Department and its officers, especially Lt. Mike Woody, Sgt. Mike Yohe, Lt. Mike Prebonick, and Mike Carillon for their assistance with the CIT stat sheets and the Signal 43/30 data. We would also like to acknowledge the contributions of Natalie Bonfine and Ashley Kilmer, graduate students in the Department of Sociology, to the editing process.
“BRIDGING THE GAPS” IN THE MENTAL HEALTH SYSTEM: AN EXAMINATION OF PROCESSES AND OUTCOMES OF THE LICKING-KNOX COUNTY HOUSING SUPPORT PROJECT

Kenyon College
Department of Psychology
Sarah K. Murnen, PhD

The Community Mental Health and Recovery Board (CMHRB) of Licking and Knox Counties was awarded a grant from the Ohio Low-and-Moderate Income Housing Trust Fund for a project that provides rental assistance and supportive services necessary to help clients with a serious and persistent mental illness maintain safe, decent and affordable housing. Their project was designed to “bridge the gaps” that currently exist within the mental health system by linking housing and supportive services. The CMHRB believed that this project would move clients along in the “recovery” process, going from dependency on the mental health care delivery system and unawareness of issues associated with their illness, to functioning without assistance and being actively involved in the community. The purpose of the present project was to assess changes in recovery attitudes that might result from linking housing with support services, and then determining whether these changes related to self-sufficiency outcomes.

In the late 1980s and early 1990s the idea emerged from consumers writing and speaking about their own experiences that people with severe and persistent mental illness could lead meaningful lives in “recovery.” Ridgway (2001) examined consumer accounts of recovery and found that they incorporated common themes of hope, “maintaining a positive sense of self despite the experience of psychiatric disability,” self-management of illness, and “reclaiming life.” Similarly, Ralph (2000) found that consumer accounts of recovery focused on internal factors such as insight, consumers’ management of their own illness, and the idea of empowerment, as well as external factors like social support. The Ohio Department of Mental Health (ODMH) developed a recovery definition from their work with consumers, family members, and providers; ODMH defined recovery as “a personal process of overcoming the negative impact of a psychiatric disability despite its continued presence.”

Such recovery principles were part of the framework of the present project. By linking housing with supportive services, it was thought that individuals might experience more self-management, leading to increased self-sufficiency. Previous research has examined the effects of various aspects of recovery-oriented programs. For example, researchers have found that increased self-help is related to increased empowerment (e.g., Zimmerman & Rappaport, 1988; Maton, 1988) and that increased support from the community in terms of “lay support” is related to increased empowerment (Murnen & Smolak, 1988; Thompson, 1989). Bullock and colleagues found that a recovery-oriented leadership program led to significant improvements in consumers’ levels of psychiatric symptoms, self-efficacy, community living skills and self esteem (Bullock, Ensing, Alloy, & Weddle, 2000).

There is currently no agreed upon way to implement and measure recovery principles (Ralph, Lambert, & Kidder, 2002), but common themes are self-sufficiency and empowerment. In the present study we compared a group of consumers who received housing-related supportive services to a control group of consumers who did not receive services across three different points in time one year apart. We expected that consumers who received the services would progress more in their recovery as indicated by more change on recovery-oriented measures of self-esteem, self-efficacy and intrapersonal empowerment. This change in recovery status was expected to lead to better outcomes in terms of more independent housing, fewer unmet needs and less use of clinical services across time.
Participants

Data were collected at three points in time one year apart for individuals in an experimental group (those receiving the housing-related services) and individuals in a control group (those who have a serious mental illness but were not receiving the housing-related services). The control group participants were identified by producing a list of those individuals who were certified to have a serious mental illness (“508 certified”) and selecting every fourth name on the list to generate an appropriate sample size. (If the fourth name was someone in the experimental group the next name was chosen). At Time 1 there were 58 individuals in the experimental group and 76 in the control group; by Time 3 that number had decreased to 33 in the experimental group and 34 in the control group. This decrease represents a 50 percent attrition rate across the three years.

Measures

Recovery Measures. Various scales were used to measure attitudes relevant to the recovery process. It was thought that one in recovery would have higher self-esteem and self-efficacy, and show higher “empowerment.” Rosenberg’s (1965)10-item self-esteem scale was used to measure self-esteem. An example of an item on this scale is, “I take a positive attitude towards myself.” Scherer and colleagues’ measure of self-efficacy (Scherer et al., 1982), which examines the belief that one can successfully perform a particular behavior, was used. The scale contains the factors of general and social self-efficacy, determined through factor analysis. The Cronbach’s alphas for the two subscales were reported as .86 and .71, respectively. An example of a general self-efficacy item is, “When I make plans, I am certain I can make them work” and a social self-efficacy item is, “I have acquired my friends through my personal abilities at making friends.” Bolton and Brookings’ (1998) measure of intrapersonal empowerment was used, which contains the subscales of personal competence (belief in one’s ability to affect outcomes), group orientation (one’s ability to work cooperatively with others), self-determination (ability to stand up for one’s rights), and positive sense of identity as a person with a disability (items were changed to refer to mental illness). The authors reported internal consistency coefficients from .80 to .89, and found evidence for the construct validity and appropriate discriminant validity of the scale. An example of a personal competence item is, “I can depend on myself to get things done;” a group orientation item is, “I like to work with others to get the job done;” a self-determination is, “I am not afraid to stand up for my rights;” and a positive sense of disability item (reverse-coded) is, “My mental illness interferes with me becoming successful.”

Outcomes. Three outcomes measures were used. First, housing status was determined by a question from the IAPRSRS toolkit - residential domain, which asks people to represent on a dimension the amount of independence they experience from 1, indicating incarceration, to 7, indicating independent living. The number of unmet needs people were experiencing was measured using a scale developed by Perese (1997). The needs examined include a friend, a role in life, membership in a group, self-identity, information and help, psychiatric care, medical/dental care, personal safety, case management, housing, financial resources, basic supplies and meaning to life. Participants were asked to check a box to indicate whether or not they had needs in each area. The sum of unmet needs was calculated, excluding housing, as it related to the independent variable. The possible range of scores was thus zero to 12. Needs were separated into social (N = 5) and material (N = 7) for more detailed analyses. We also developed a measure of the amounts of different kinds of local services people were currently receiving including any of eleven different services including counseling, case management, various medical services, housing assistance and vocational services. This measure was developed in consultation with the housing support specialists and two case managers. The total number of clinical services received was examined, which excluded housing assistance as this was part of the operationalization of the independent variable, and excluded attendance at a consumer center or vocational assistance as these services might be used by
someone in recovery. The total number of “clinical services” was used with a possible range of scores from zero to eight.

**Procedure**

Consumer housing support specialists who worked for the community mental health agency organized the interviewing process. The housing specialists hired consumers to conduct the interviews of other consumers. People were contacted by telephone or in person at either a consumer center or a mental health agency and asked if they wanted to participate in an anonymous study concerning “attitudes among consumers of mental health services.” They were told they would receive $30 in return for their participation, which could take up to two hours. If people agreed to participate, they were interviewed (or filled out the scale on their own) at either a consumer center, mental health center, their home or some other convenient location. Participants filled out a consent form informing them of their rights as research participants. Participants then filled out the questionnaire which contained the self-esteem items listed first, self-efficacy items, empowerment items and outcomes measures.

**Results**

As indicated, the recovery-oriented measures and outcomes measures were administered to the two groups of individuals at three points in time one year apart. The effects of time and group (experimental vs. control) on measures were examined through 3 X 2 mixed-design factorial ANOVAS. It was hypothesized that more change would occur in the experimental group compared to the control group on measures, thus it was expected that there would be significant interaction effects between group and time on the measures. Table 1 shows the means on the measures by group and time, as well as the effects that were statistically significant. (The average score per item on the measure is shown for the recovery measures so that scales with different number of items can be compared.)

For the recovery-oriented measures, there was a significant effect of time ($p < .05$) on general self-efficacy, self-determination and positive sense of disability; and there was a marginally significant effect of time ($p < .10$) on self-esteem and social self-efficacy. Most of these effects were consistent such that self-esteem, general self-efficacy, social self-efficacy and self-determination all increased across time for both groups of individuals. However, the positive sense of one’s disability increased from Time 1 to Time 2 but then decreased again at Time 3, such that the scores were lowest at Time 3 compared to any other time period.

In terms of outcomes measures (Table 2), as expected, there was a significant interaction between group and time on independence of housing status such that the experimental group started off less independent at Time 1, but by Time 3 their housing status had become more independent. The control group had a high level of housing independence throughout the three time periods. For the total of unmet needs, there was a significant effect of group due to the fact that the experimental group had higher unmet needs than the control. When needs were divided into social and material needs, it was found that there were no significant effects of time, group or the interaction on social needs; but for material needs there was a time effect and a group effect. Overall, the experimental group had more material needs than the control, but time also had an effect such that all groups had fewer needs by Time 3.
Table 1. Mean Scores on Recovery Measures by Group and Time

<table>
<thead>
<tr>
<th></th>
<th>Group</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
<th>Significant Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Esteem</td>
<td>E</td>
<td>2.91</td>
<td>3.12</td>
<td>3.17</td>
<td>T, p = .07</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>3.20</td>
<td>3.25</td>
<td>3.30</td>
<td></td>
</tr>
<tr>
<td>General Self-Efficacy</td>
<td>E</td>
<td>2.97</td>
<td>2.98</td>
<td>3.11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>2.96</td>
<td>3.06</td>
<td>3.12</td>
<td></td>
</tr>
<tr>
<td>Social Self-Efficacy</td>
<td>E</td>
<td>2.63</td>
<td>2.73</td>
<td>2.89</td>
<td>T, p = .04</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>2.80</td>
<td>3.03</td>
<td>3.16</td>
<td></td>
</tr>
<tr>
<td>Personal Competence</td>
<td>E</td>
<td>2.97</td>
<td>3.05</td>
<td>3.04</td>
<td>T, p = .08</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>2.93</td>
<td>3.06</td>
<td>3.24</td>
<td></td>
</tr>
<tr>
<td>Group Orientation</td>
<td>E</td>
<td>2.94</td>
<td>2.97</td>
<td>2.96</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>2.97</td>
<td>3.01</td>
<td>3.09</td>
<td></td>
</tr>
<tr>
<td>Self Determination</td>
<td>E</td>
<td>2.71</td>
<td>2.92</td>
<td>2.96</td>
<td>T, p = .024</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>2.88</td>
<td>2.92</td>
<td>3.01</td>
<td></td>
</tr>
<tr>
<td>Positive Disability</td>
<td>E</td>
<td>2.57</td>
<td>2.78</td>
<td>2.40</td>
<td>T, p = .001</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>2.53</td>
<td>2.77</td>
<td>2.49</td>
<td></td>
</tr>
</tbody>
</table>

Note. E = experimental group; C = control. For Effects: T = effect of time, T X G = time X group interaction, G = group effect. Average score on each measure is shown.

Table 2. Mean Scores on Outcomes Measures by Group and Time

<table>
<thead>
<tr>
<th></th>
<th>Group</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
<th>Sig. Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Status</td>
<td>E</td>
<td>5.74</td>
<td>6.43</td>
<td>6.48</td>
<td>T, p = .089</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>6.58</td>
<td>6.77</td>
<td>6.58</td>
<td>T X G, p = .061</td>
</tr>
<tr>
<td>Total Needs</td>
<td>E</td>
<td>5.20</td>
<td>6.27</td>
<td>5.06</td>
<td>G, p = .030</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>4.11</td>
<td>3.77</td>
<td>3.15</td>
<td>G, p = .009</td>
</tr>
<tr>
<td>Social Needs</td>
<td>E</td>
<td>2.39</td>
<td>2.72</td>
<td>2.39</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>2.36</td>
<td>2.07</td>
<td>1.86</td>
<td></td>
</tr>
<tr>
<td>Material Needs</td>
<td>E</td>
<td>2.56</td>
<td>3.56</td>
<td>2.44</td>
<td>T, p = .032</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>1.79</td>
<td>1.86</td>
<td>1.38</td>
<td>G, p = .002</td>
</tr>
<tr>
<td>Clinical Services</td>
<td>E</td>
<td>4.14</td>
<td>3.28</td>
<td>3.21</td>
<td>T, p = .08</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>3.65</td>
<td>3.50</td>
<td>3.38</td>
<td></td>
</tr>
</tbody>
</table>

Note. E = experimental group; C = control. For Effects: T = effect of time, T X G = time X group

It was of interest to determine whether a change in recovery attitudes would predict more positive outcomes in terms of housing status, amount of unmet need and amount of services utilized. Change...
scores on the recovery measures were created by subtracting Time 1 scores from Time 3 scores. Thus, a positive change scores indicated positive change across time, while a negative score indicated negative change. The change scores that resulted represent the average change per item on the five-point Likert scale. The average change scores were as follows: For self-esteem $M = .154$, $SD = .67$, general self-efficacy $M = .143$, $SD = .67$, social self-efficacy $M = .324$, $SD = .89$, empowerment scale personal competence $M = .207$, $SD = .63$, empowerment scale self-determination $M = .182$, $SD = .50$, and positive sense of disability from empowerment scale $M = -.091$, $SD = .67$. Thus, only for positive sense of disability was there a negative change score across time. Since there were few group differences or group X time differences, the data were collapsed across the experimental and control group for the correlational analyses.

For housing status at Time 3, one correlation was marginally significant; change in the positive sense of one’s disability was positively related to independence of housing status, $r(56) = .231$, $p = .08$, such that the more positive this sense was across time the more independent the living situation. The total amount of unmet needs at Time 3 was correlated with change on two measures; change in personal competent correlated negatively with number of unmet needs such that the more personally competent across time, the fewer unmet needs at time 3, $r(44) = -.42$, $p < .005$, and a positive change in sense of oneself as a person with a disability was related to a lower number of unmet needs, $r(44) = -.36$, $p < .05$, such that the more positive one felt the fewer the needs. When needs were divided into social and material, it was found that personal competence change was negatively correlated with unmet social needs at Time 3, $r(49) = -.335$, $p < .05$; positive sense of disability change was negatively correlated with unmet social needs at Time 3, $r(49) = -.28$, $p = .05$, but that no change scores were correlated with amount of unmet material needs. No variables correlated with number of services used at Time 3.

The change in housing status, needs and services across time was then examined by subtracting Time 1 scores from Time 2, and then the recovery change scores were correlated with the change on the outcomes measures. These scores would indicate whether change in recovery orientation would predict change on the outcomes (and not merely the outcomes scores at Time 3). The only outcomes changes scores that were correlated with change in recovery measures were changes related to needs. For the change in total of unmet needs, self-esteem change was negatively correlated with need change, $r(43) = -.39$, $p = .01$, such that those whose self esteem increased across time also had fewer unmet needs across time; personal competence was negatively correlated with change in total unmet needs, $r(43) = -.401$, $p < .01$, such that the more competent across time the fewer unmet needs, and change in positive sense of disability was negatively correlated with total need change, $r(43) = -.30$, $p = .05$, so that that the more positive the sense across time, the more there was a decrease in unmet needs. Dividing needs into social and material, the change in social needs was negatively correlated with self-esteem change, $r(48) = -.36$, $p < .05$, but the change in material needs was not correlated with any of the changes in the recovery measures scores.

**Discussion**

A housing program was developed within a recovery-oriented framework. It was predicted that consumers who received housing linked with supportive services would progress more in their “recovery,” as indicated by more change on recovery-oriented measures. This change in recovery orientation was expected to lead to better outcomes. Past research has found that increased self-help and community support, concepts related to recovery, have had a positive impact on consumers (e.g., Zimmerman & Rappaport, 1988; Maton, 1988; Murnen & Smolak, 1988; Thompson, 1989).

The effects of group and time on recovery variables and outcomes were examined. For both sets of variables, it was expected that there would be an interaction between group and time on responses. For the recovery variables, only time effects were significant which showed that across time, both groups
reported increased self-esteem, social self-efficacy, personal competence, and self-determination, and
decreased positive sense of their disability at Time 3 (after it had increased at Time 2). These positive
results are likely due to the fact that the individuals who remained in our sample across the three time
periods were those who remained involved in the community mental health system and thus were easy to
locate. Presumably, their participation in programs was positively impacting their recovery orientation. It
is unclear, though, why the sense of one’s disability fluctuated more across time and decreased at Time 3.

For outcomes, there was a significant effect of time, group, and the interaction between group and
time on housing status, as expected. These effects were due to the fact that the experimental group started
out less independent than the control, but increased in independence across time such that they were
almost as independent as the control group at Time 3. It was found that the experimental group had more
total unmet needs than the control group, and particularly had more unmet material needs than the control
group. Time also affected the number of material needs, though, such that the number of needs decreased
across time for both groups. These results could mean that the services experienced by the experimental
group did positively affect them across time in terms of their needs status and their housing. Finally, the
number of clinical services used by both groups decreased across time, which could also indicate success
in treatment.

The hypotheses that change in recovery orientation would be linked to outcomes was examined
through correlational analyses. Changes in some of the recovery measures were related to some of the
outcomes at Time 3. Those who developed a more positive sense of their disability across time had a
more independent living status at Time 3, fewer total unmet needs, and specifically fewer unmet social
needs. A positive change in personal competence across time was related to fewer total unmet needs and
specifically fewer unmet social needs. With respect to a change in the outcomes across time, those who
had positive self-esteem change had fewer unmet needs, specifically social needs. Positive changes in
personal competence and sense of one’s disability related to positive changes in the total number of unmet
needs as well.

Thus changes in attitudes related to recovery were related to the needs experienced, and in one
case, to housing status. Generally, the more positive the sense of one’s self, one’s competence, and one’s
feeling about his/her illness, the fewer unmet needs one reported. Since these relationships are
correlational, it is difficult to determine the nature of the associations. It is worthwhile to note, though,
that one of the most frequent predictors of outcomes was positive sense of one’s disability. This was the
only recovery measure for which people decreased their agreement scores across time. One wonders
what people were experiencing that might have affected their scores on this measure that was related to
people’s unmet needs and housing status. Although fewer people changed in a positive way on this
measure compared to the other recovery measures, of those who did show positive change, their outcome
scores were higher. Future research might concentrate on examining this issue and how it might be linked
to social needs, in particular.

In summary, housing status did not have a dramatic impact on outcomes, although it was related
to developing a positive sense of one’s disability across time. What the results did show, though, is that
across time the individuals who remained in the study showed some positive change on various recovery-
oriented variables. This change, in turn, led them to report fewer unmet needs. In addition, all groups
made use of slightly fewer clinical services across time and experienced a greater independence of living.
These results might indicate some positive benefits of the general services our sample was experiencing.

It is likely that housing linked with supportive services is beneficial, but does not impact dramatic
outcomes. In other research where recovery principles have been introduced into the entire system by
training administrators, consumers, and staff, it was found that consumers showed less symptom distress,
and used fewer treatment services, and that consumers and service providers developed better

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partnerships and increased expectations for consumer recovery (Murnen & Maxwell, 2004). Such research is beginning to show that systems that introduce recovery concepts in more intensive ways are likely to positively influence consumers’ lives. Through the introduction of recovery principles into our mental health systems, it is predicted that we will no longer see people with mental illness as disabled but as “real people who can move on with their lives” (Ralph et al., 2002).

REFERENCES


In the late 1980s and early 1990s the idea emerged that individuals with severe and persistent mental illness could lead meaningful lives in “recovery.” One of the first people to introduce the idea of recovery, Deegan (1988), described recovery as, “the need is to meet the challenge of the disability and to re-establish a new and valued sense of integrity and purpose within and beyond the limits of the disability; the aspiration is to live, work, and love in a community in which one makes a significant contribution (p. 15).” Many other consumer accounts of the recovery process followed. Ridgway (2001) examined such accounts and found some common themes including hope, maintaining a “positive sense of self despite the experience of psychiatric disability,” self-management, and “reclaiming life.” Similarly, Ralph (2000) found that consumer accounts of recovery focused on internal factors such as insight, consumers’ management of their own care, and the idea of empowerment, as well as external factors like social support. The Ohio Department of Mental Health (ODMH) developed a recovery definition from their work with consumers, family members, and providers; ODMH defined recovery, as “a personal process of overcoming the negative impact of a psychiatric disability despite its continued presence” (ODMH, 2000).

While consumers themselves were discussing their experiences with recovery, a longitudinal study of patients released from the Vermont State Psychiatric Hospital corroborated the idea that people with severe mental illness could experience recovery (Harding, Brooks, Asolaga, & Breier, 1987). It was found that among those with a diagnosis of schizophrenia who were released from the hospital into a program with community supports, 34 percent experienced full recovery and another 34 percent had significant improvement in functioning. This study supported consumers’ accounts of their experience, and showed mental health practitioners that recovery was possible. Anthony (1993) introduced the idea that recovery principles should be incorporated into mental health systems. Many mental health systems mobilized to try to develop programs to support recovery.

A review group studied various programs and concluded that a recovery system is, “person-oriented, and respects people’s lived experience and expertise. It promotes decision-making and self-responsibility. It addresses people’s needs holistically and contends with more than their symptoms. Such a system meets basic needs and addresses problems in living. It empowers people to move toward self-management of their condition. The orientation is one of hope with an emphasis on positive mental health and wellness” (Onken, Dumont, Ridway, Dorman, & Ralph, 2002, p. x).

The recovery program developed in our counties was informed by this background, as well as by research and writing sponsored by ODMH. In 1993 ODMH held dialogues with consumers, family members, providers, and clinicians to discuss recovery concepts. Out of this work came a report (Beale & Lambric, 1995), and the Mental Health Recovery Process and the Best Practices Model, described in Emerging Best Practices in Mental Health Recovery (Townsend, Boyd, Griffin, & Hicks, 1999). Our recovery model was developed from the ODMH model and involves the consumer and provider working together to develop an individualized Recovery Management Plan (RMP) by using a process in which consumers collaborate with clinicians to identify components they think will best assist their recovery;
assess their own stage of recovery; establish goals and priorities for these goals; develop the necessary steps on the part of the consumer, the provider, and the community to achieve these goals; and develop action steps and keep track of their own goals, using the plan as reference throughout the process (Hodge, Townsend, Adams, & Murnen, 2003). Partnership between consumer and clinician is emphasized, as well as community involvement, which should result in quicker and higher quality recovery (Deutschle & Deutschle, 2003). The RMP represents an important replacement for the Individual Service Plan (ISP) in that it identifies goals, strengths, and necessary supports rather than the deficits, needs, and risks associated with the ISP. A consumer toolkit and workbook, a staff toolkit, and a system toolkit are being developed to describe the program called SOAR – Systems Operating to Achieve Recovery (Maxwell & Townsend, 2003).

The purpose of the present study was to conduct controlled research to measure the effectiveness of the program. While there is no agreed upon way to implement and measure recovery (Ralph et al., 2002), and there is debate about whether one should measure processes and/or outcomes, some researchers have studied various recovery-related processes and others are in the process of developing a set of recovery indicators (Onken et al., 2002). For example, Ribner & Kei-Paz (2002) studied consumers’ views about what makes a successful helping relationship. They found that factors that promoted equality in the consumer-staff relationship such as a nonjudgemental stance were important. Research on the empowerment aspect of recovery programs has linked self-help to empowerment (e.g., Zimmerman & Rappaport, 1988; Maton, 1988) and found that increased lay support increases empowerment (Murnen & Smolak, 1998; Thompson, 1989). Boehm & Staples (2002) studied consumer and practitioner views of empowerment with focus groups and found that while social workers stressed processes over outcomes, this was not true for consumers who placed more emphasis on tangible, concrete outcomes. Bullock and colleagues (Bullock, Ensing, Alloy, & Weddle, 2000) developed a Consumer Leadership Education Program using ODMH recovery principles such as the involvement of a consumer advisory group, and found that consumers involved in this program showed significant improvements in level of psychiatric symptoms, self-efficacy, community living skills and self-esteem.

In our research we wanted to focus on both process and outcome, and we wanted to examine these issues from the perspectives of staff, consumers and the mental health system as a whole, since the whole system needs to change in order for SOAR to be implemented. We hypothesized that staff working with the recovery model would experience a better partnership with consumers, and would see consumers as more capable of recovery, compared to staff working in a more traditional mental health model. These effects should occur because the recovery model involves consumers and staff working together toward recovery, and with the increased self-efficacy we expected of consumers, it was expected that staff would begin to see consumers as more capable. We hypothesized that consumers involved in a recovery system of care would perceive their treatment as more recovery-oriented, would experience a better partnership with providers, and would experience more positive outcomes such as increased feelings of self-efficacy and empowerment, compared to consumers involved in a more traditional system. Fidelity to the recovery model was expected to mediate experience with processes for both staff and consumers, and mediate outcomes for consumers. It was expected that trained staff and the experimental group of consumers would view the RMP more positively than other groups viewed the ISP.

**Participants**

**Staff Participants.** Sixty-one staff members, including clinicians and case managers, filled out measures during a pre-test phase. They were assured of the confidentiality of the data. Twenty-five of these staff members either volunteered or were recruited at random to be trained in the recovery model. Nineteen trained staff members and 15 untrained staff members filled out the measures during a post-test phase. Twenty-seven of the staff who completed measures were female (79.4%). Staff did not differ significantly on any of the measures used at the pre-test.
Consumer Participants. Nearly 300 consumers responded to a pre-test, and we obtained post-test data from 44 consumers in an experimental group, 64 in a matched control group, and 66 in an unmatched control group. The experimental group was created by having trained staff members select one of their clients to work with using the recovery model. The matched control group consisted of consumers working with a trained staff member, but using traditional services. The unmatched control was a group of consumers working with untrained staff using a more traditional model. Across all consumer groups, 62 percent of the consumer group is female, and 97.7 percent is White. In terms of employment, 6.4 percent were employed full-time and 15 percent part-time. Seventy-four percent of participants lived in their own home or apartment. The three groups of consumers did not differ significantly on any of the primary measures administered at the pre-test.

Consumers who agreed to participate signed a consent form indicating that they were told that any information they provided would be kept confidential and that they could discontinue participation at any time and still receive $30 in return for their participation.

Materials

Assessment of Services. A questionnaire was developed that was adapted for use with both consumers and staff members. Sixteen recovery-oriented issues generated from the ODMH literature on the recovery process were listed, such as “work in partnership with service providers,” and “take responsibility for managing one’s illness.” Staff members were instructed to, “rate how much you generally encourage each of the following activities for your clients” using five-point scales from 1 = “not at all” to 5 = “encourage all of the time or almost all of the time.” This represented the measure of “assessment of services” from a recovery-oriented perspective. The alpha coefficient of internal consistency was .92 across these items, so they can be summed to create a total score, although it was of interest to examine them separately for some analyses.

The same issues were listed for consumers who were asked, “How much are you generally encouraged to do each of the following activities by mental health staff?” on five-point rating scales where 1 = “not at all” and 5 = “all of the time or almost all of the time.” This represented “assessment of services.” For consumers, the alpha coefficient of internal consistency across the 16 items was .90; thus items could be summed to create a total score, but four items were also examined separately to gain detailed information.

Assessment of Consumer Capability. The same 16 recovery issues were listed to examine the issue of staff ratings of consumer capability. Staff members were asked, “How capable do you think your clients are (in general) of each of the following activities” using five-point ratings of capability where 1 indicated “not at all capable” and 5 indicated “extremely capable” ratings of “consumer capability.” The internal consistency coefficient alpha was .95 so items can be summed to create a total score, although responses to individual items were examined for some analyses. Similarly, consumer participants were asked, “How capable do you feel are you of each of the following activities?” using five-point scales where 1 = “not at all capable” and 5 = “extremely capable.” This represented the assessment of “consumer (self) capability.” The items on this scale can be summed to create a total score with an alpha coefficient of internal consistency of .83, although analysis of individual items was also of interest.

Evaluation of RMP vs. ISP. At the post-test trained staff and the experimental group of consumers were asked about their perceptions of the Recovery Management Plan (RMP) developed for this model, while untrained staff and the control groups of consumers were asked the same questions about the more traditional Individual Service Plan (ISP). On this scale, developed for this study, there are 12 statements about the RMP (or ISP) such as “The RMP (ISP) deals with issues I think are important.” Consumer and staff participants responded to each item on five-point scales with higher
scores indicating a more positive response. For staff the alpha coefficient of internal consistency was .86 across these items, and for consumers it was .83. A total score was used in analyses.

**Consumer Outcomes.** The ODMH Outcomes System Adult Consumer Form A (ODMH, 2000), was administered which has subscales of Quality of Life, Safety and Health and Symptom Distress, and Empowerment subscales of Self-Esteem, Power, Community Activism, Optimism and Righteous Anger. Items were responded to on Likert scales with various points from disagree to agree. An average response to each subscale was used for this report, and items are coded so that a higher score indicates a higher response on each dimension.

**Service Utilization.** We examined the mental health agency records to determine total units of service used during two six-month periods: the six months before introduction of the recovery model, and a six-month period one year later. The total number of treatment services excluding psychiatric services was totaled.

**Fidelity to the Recovery Process.** Trained staff members and consumers in the experimental group completed a questionnaire developed for this study about their fidelity to the recovery process in treatment. Five steps in the process were listed (e.g., ranking the 9 components of recovery) and respondents were asked to indicate how much they actually focused on each part of the process during treatment (1 = never or almost never, 7 = almost all of the time or all of the time). The measure of fidelity was the total frequency score across the five steps. The internal consistency coefficient for staff for this scale, as indexed by alpha, was only .42, but it was .91 for consumers.

**Procedure**

Staff members filled out pre-test measures at staff meetings, and consumers filled out measures at either a mental health facility or a consumer center. About one half of staff members who filled out pre-test measures were trained in our adaptation of the Emerging Best Practices Recovery Model, SOAR. Some consumers also received recovery training at the consumer center. One year later people were asked to complete measures for a second time.

**Results**

**Assessment of Services.** For staff, the total score for assessment of services was examined first by summing up responses across the 16 recovery issues. A 2 (group – trained vs. untrained) X 2 (time – pre-test vs. post-test) mixed design factorial ANOVA showed a significant effect of time on the assessment of services, \( F(1,32) = 194.83, p < .001 \). The pre-test assessment \((M = 69.29, SD = 8.25)\) showed that staff assessed services as more recovery-oriented than they did at the post-test \((M = 53.04, SD = 8.96)\). There was no effect of group or group by time interaction. To follow up this effect on the summed score to see which specific items recovery items were affected, a series of ANOVAs was conducted to examine each of the 16 Recovery issues encouraged by the staff member. There was a significant main effect of time on the assessment of current practices on all 16 of the issues (all \( p < .001 \)). The time effect was opposite to what might be expected such that across time, the average rating indicating how much each issue was encouraged in practice, became lower. The relevant means are presented in Table 1. The interaction between group and time affected two of the ratings of issues \( p < .05 \), although the effects were small. For “resisting others’ decision-making,” the interaction effect was significant, \( F(1,30) = 5.45, p < .05 \); and for “seeking own educational resources,” it was also significant, \( F(1,32) = 4.54, p < .05 \). The interactions did not show the same pattern in that there was more change in the trained group compared to the untrained group for one question, but the opposite pattern for the other question. These means are also shown in Table 1.
For consumers, a similar procedure was followed where first the summed assessment of services across the 16 issues was examined with a 3 (group – experimental vs. matched control vs. unmatched control) X 2 time (pre-test vs. post-test) mixed design factorial ANOVA. There was a significant effect of time, $F(1,168) = 196.6$, $p < .001$ with services rated as less recovery-oriented at the pre-test ($M = 34.89$, $SD = 13.14$) compared to the post-test ($M = 50.57$, $SD = 14.49$). There was no significant main effect of group, and no significant group-by-time interaction. To follow up, a series of ANOVAs was conducted to examine each of the 16 recovery issues. For all but one of the 16 recovery-oriented issues, there was a significant effect of time ($p < .001$) such that the perceptions that the issue was encouraged in treatment increased across time, which is opposite to the effect found among staff members. The relevant means are in Table 1. So while consumers felt that recovery issues were encouraged more in treatment across time as expected, staff members rated that there was a decrease in encouragement of these issues across time. While staff and consumers gave very discrepant ratings at the pre-test, their assessments are quite similar at the post-test, suggesting that they converged in their perceptions about what was occurring in treatment. This could indicate the development of a partnership through shared perceptions.

Table 1. Assessment of Services

<table>
<thead>
<tr>
<th>Issue</th>
<th>Staff</th>
<th>Consumers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Finding meaningful employment</td>
<td>4.18 vs. 3.25</td>
<td>1.63 vs 2.72</td>
</tr>
<tr>
<td>2. Career-minded</td>
<td>3.33 vs. 2.71</td>
<td>1.56 vs 2.81</td>
</tr>
<tr>
<td>3. Resisting others’ decision-making</td>
<td>3.94 vs. 3.35 trained</td>
<td>1.95 vs 3.41</td>
</tr>
<tr>
<td></td>
<td>4.53 vs. 3.07 untrained</td>
<td></td>
</tr>
<tr>
<td>4. Sense of self-determination</td>
<td>4.32 vs. 3.47</td>
<td>2.70 vs 3.82</td>
</tr>
<tr>
<td>5. Accepting mental illness</td>
<td>4.18 vs. 3.13</td>
<td>2.82 vs 4.11</td>
</tr>
<tr>
<td>6. Working cooperatively case manager</td>
<td>4.65 vs. 3.56</td>
<td>3.02 vs 4.05</td>
</tr>
<tr>
<td>7. Advocating for those with illness</td>
<td>3.41 vs. 2.76</td>
<td>2.16 vs 2.79</td>
</tr>
<tr>
<td>8. Developing relationships peers</td>
<td>4.44 vs. 3.53</td>
<td>2.56</td>
</tr>
<tr>
<td>9. Participating self-help organizations</td>
<td>4.00 vs. 2.91</td>
<td>2.07 vs 3.48</td>
</tr>
<tr>
<td>10. Working in partnership with providers</td>
<td>4.51 vs. 3.36</td>
<td>2.63 vs 3.86</td>
</tr>
<tr>
<td>11. Challenging ideas providers</td>
<td>3.91 vs. 2.88</td>
<td>1.79 vs 3.02</td>
</tr>
<tr>
<td>12. Being involved in larger community</td>
<td>2.76 vs. 2.10</td>
<td>1.40 vs 2.53</td>
</tr>
<tr>
<td>13. Educating psychiatric medicine</td>
<td>4.00 vs. 3.37</td>
<td>2.48 vs 3.61</td>
</tr>
<tr>
<td>14. Developing relationships with family</td>
<td>4.44 vs. 3.41</td>
<td>2.50 vs 3.81</td>
</tr>
<tr>
<td>15. Taking responsibility managing illness</td>
<td>4.59 vs. 3.68</td>
<td>3.16 vs 4.14</td>
</tr>
<tr>
<td>16. Seeking own educational resources</td>
<td>3.78 vs. 2.68 trained</td>
<td>1.80 vs 3.20</td>
</tr>
<tr>
<td></td>
<td>3.33 vs. 2.93 untrained</td>
<td></td>
</tr>
</tbody>
</table>

Responses indicate how much each issue is encouraged in treatment with 1 = not at all, and 5 = very frequently. Note. Where one mean is shown there is no effect of any variables; where two means are shown there is a significant effect across time with time 1 mean shown then time 2 mean; with four means there is a significant interaction between group and time (for staff).

Assessment of Consumer Capability. Staff members were asked to evaluate 16 recovery-oriented issues with respect to how capable they felt consumers were of working on each issue. The capabilities scores were added together to create a total score. A 2 (group) X 2 (time) factorial ANOVA examined the influence of group, time, and their interaction on the summed score. A significant effect of time was found $F (1,32) = 5.10$, $p < .05$ such that staff rated consumers as less capable of working on recovery issues at the pre-test ($M = 52.85$, $SD = 11.19$) compared to the post-test ($M = 55.38$, $SD = 12.18$). To examine the specific issues further, a series of ANOVAs was conducted to examine each of the 16
recovery issues. The relevant means are shown in Table 2. There was a significant main effect of time on two of the recovery issues: “finding meaningful employment,” $F(1,32) = 4.04, p = .05$, and “working in partnership with providers,” $F(1,32) = 5.50, p < .05$. At time 1 staff members rated clients less capable on these issues compared to time 2. Neither the main effects of group, nor the interaction effects, were significant for any of the 16 recovery issues.

Table 2. Assessment of Consumer Capabilities

<table>
<thead>
<tr>
<th>Staff</th>
<th>Consumers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Finding meaningful employment 2.97 vs. 3.26</td>
<td>2.71</td>
</tr>
<tr>
<td>2. Career-minded</td>
<td>2.59 vs. 2.68</td>
</tr>
<tr>
<td>3. Resisting others’ decision-making</td>
<td>3.04 vs. 3.15 vs. 3.37</td>
</tr>
<tr>
<td>4. Sense of self-determination</td>
<td>3.32 vs. 3.11 vs. 3.35</td>
</tr>
<tr>
<td>5. Accepting mental illness</td>
<td>3.49 vs. 3.72</td>
</tr>
<tr>
<td>6. Cooperatively case manager</td>
<td>3.83 vs. 3.84</td>
</tr>
<tr>
<td>7. Advocating for those with illness</td>
<td>3.07 vs. 3.30</td>
</tr>
<tr>
<td>8. Supportive relationships peers</td>
<td>3.33 vs. 3.42</td>
</tr>
<tr>
<td>9. Self-help organizations</td>
<td>3.31 vs. 3.08</td>
</tr>
<tr>
<td>10. Partnership with providers</td>
<td>3.43 vs. 3.72 vs. 3.58</td>
</tr>
<tr>
<td>11. Challenging ideas providers</td>
<td>3.04 vs. 3.22 vs. 3.45</td>
</tr>
<tr>
<td>12. Being involved in larger community</td>
<td>2.56 vs. 2.54</td>
</tr>
<tr>
<td>13. Educating &amp; psychiatric medicine</td>
<td>3.08 vs. 3.61</td>
</tr>
<tr>
<td>14. Supportive relationships with family</td>
<td>3.30 vs. 3.34</td>
</tr>
<tr>
<td>15. Taking responsibility managing illness</td>
<td>3.14 vs. 3.67</td>
</tr>
<tr>
<td>16. Seeking own educational resources</td>
<td>2.74 vs. 3.28</td>
</tr>
</tbody>
</table>

Ratings are made about how capable consumers are of working on each recovery issue with 1 = not all, and 5 = extremely capable. Note. Where one mean is shown there is no effect of any variables; where two means are shown there is a significant effect across time with time 1 mean shown then time 2 mean.

Consumers were asked to evaluate the 16 issues with respect to how capable they felt of working on each issue. Variation on the summed score was examined with a 3 (group) x 2 (time) factorial ANOVA, and no effects were statistically significant. Even though the overall effect was not significant, we still conducted a series of ANOVAs to examine each issue. The effect of time on “resisting others’ decision making” was significant, $F(1,161) = 4.46, p < .05$, as was “sense of self-determination,” $F(1,163) = 5.79, p < .05$, and “challenging the ideas of service providers when appropriate,” $F(1,159) = 4.66, p < .05$. The means are shown in Table 2. For these three issues, all consumers rated themselves as more capable at the post-test compared to the pre-test. Due to the lack of significance of effects on the total score, and the fact that 16 separate analyses were conducted, there is an increased risk that these findings result from Type I error.

Evaluation of RMP vs. ISP. An independent groups $t$-test was conducted to determine whether there was a difference between the level of positive attitude that trained staff members ($M = 3.78, SD = .58$) held toward the RMP compared to the attitude of untrained staff toward the ISP ($M = 4.05, SD = .90$). The test was not statistically significant, $t(30) = 1.01, p > .05$. It should be noted, though, that the trained staff were required to use the RMP in addition to the ISP, which likely affected their ratings.
A one-way between-subjects ANOVA was conducted to determine whether there was a difference between the level of positive attitude that the experimental group of consumers held toward the RMP ($M = 3.98$, $SD = .64$) compared to the attitude of the matched control group and the unmatched control group had towards the ISP ($M = 3.70$, $SD = .62$; $M = 3.83$, $SD = .59$, respectively). The test was marginally statistically significant, $F(2,171) = 2.80$, $p = .06$, but the Tukey’s post-hoc test did not show a significant difference between groups ($p > .05$).

**Consumer Outcomes.** The ODMH Consumer Outcomes Form A (ODMH, 2000) was administered at both the pre-test and the post-test. Table 3 shows the means for each group at time 1 and time 2. A series of 3 (group) x 2 (time) mixed-design ANOVAs were conducted to examine the effects of group, time, and their interaction on the scales Quality of Life; Empowerment Subscales of Self-Esteem/Self-Efficacy, Power, Community Activism, Optimism/Control, and Righteous Anger; Physical Health; and Symptom Distress. For Symptom Distress, there was a significant effect of time $F (1,171) = 75.02$, $p < .001$, and an effect of the interaction between group and time $F (1,171) = 8.24$, $p < .001$. The effect of time was such that there was a decrease in symptoms across time. The interaction was due to the effect that the effects of time were strongest on the matched control group. The relevant means are displayed in Table 3. None of the other analyses found statistically significant differences.

Table 3. Consumer Outcomes: Change Across Time on ODMH Outcomes Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Experimental Group (N = 44)</th>
<th>Matched Control Group (N = 64)</th>
<th>Unmatched Control (N = 66)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Life</td>
<td>Time 1 2.98 (.73)</td>
<td>3.00 (.82)</td>
<td>2.98 (.67)</td>
</tr>
<tr>
<td></td>
<td>Time 2 2.96 (.79)</td>
<td>3.06 (.78)</td>
<td>2.95 (.67)</td>
</tr>
<tr>
<td>Self-Esteem/Self-Efficacy</td>
<td>Time 1 2.28 (.58)</td>
<td>2.18 (.55)</td>
<td>2.15 (.42)</td>
</tr>
<tr>
<td></td>
<td>Time 2 2.30 (.82)</td>
<td>2.11 (.60)</td>
<td>2.12 (.42)</td>
</tr>
<tr>
<td>Community Activism</td>
<td>Time 1 1.94 (.42)</td>
<td>1.84 (.40)</td>
<td>1.84 (.37)</td>
</tr>
<tr>
<td></td>
<td>Time 2 1.80 (.42)</td>
<td>1.89 (.49)</td>
<td>1.92 (.50)</td>
</tr>
<tr>
<td>Optimism</td>
<td>Time 1 2.30 (.47)</td>
<td>2.15 (.58)</td>
<td>2.18 (.44)</td>
</tr>
<tr>
<td></td>
<td>Time 2 2.26 (.49)</td>
<td>2.15 (.47)</td>
<td>2.29 (.48)</td>
</tr>
<tr>
<td>Righteous Anger</td>
<td>Time 1 2.57 (.42)</td>
<td>2.63 (.55)</td>
<td>2.60 (.55)</td>
</tr>
<tr>
<td></td>
<td>Time 2 2.55 (.53)</td>
<td>2.61 (.52)</td>
<td>2.60 (.56)</td>
</tr>
<tr>
<td>Physical Health</td>
<td>Time 1 3.41 (.53)</td>
<td>3.45 (.62)</td>
<td>3.42 (.59)</td>
</tr>
<tr>
<td></td>
<td>Time 2 3.58 (.46)</td>
<td>3.38 (.51)</td>
<td>3.36 (.41)</td>
</tr>
<tr>
<td>Symptom Distress</td>
<td>Time 1 3.08 (1.02)</td>
<td>3.16 (.95)</td>
<td>3.04 (.85)</td>
</tr>
<tr>
<td></td>
<td>Time 2 2.73 (1.00)</td>
<td>2.38 (.89)</td>
<td>2.75 (1.01)</td>
</tr>
</tbody>
</table>

*Note. All measures are coded so a higher score means more.*

*a statistically significant effect of group, $p < .05$; *b statistically significant effect of time, $p < .05$; *c statistically significant group X time interaction, $p < .05$
Data on the use of treatment services in the six months prior to the introduction of the recovery model were compared to data in the six month period one year later using a 3 X 2 mixed design ANOVA. There was a significant effect of Time (Pillais’ Trace, \( p < .005 \)) and of Group \( F(2,182) = 3.83, p < .05 \) on responses such that all groups showed a decrease in units of service across time, but the experimental group used more services than any other group at time 1 and time 2: for the experimental group Time 1 \( M = 30.71, SD = 44.51 \) and Time 2 \( M = 19.11, SD = 26.57 \); for the matched control group Time 1 \( M = 19.11, SD = 26.56 \) and Time 2 \( M = 13.58, SD = 19.50 \); and for the control group Time 1 \( M = 13.61, SD = 18.60 \), Time 2 \( M = 11.51, SD = 22.55 \).

Fidelity to the Recovery Process. Trained staff and the consumers who showed higher fidelity to the recovery process were expected to show more change than those who indicated lower fidelity. (There was a high degree of fidelity to each step of the process among both staff and consumers.) To examine this hypothesis, a total fidelity score was computed by adding up the adherence scores across all steps in the process. Then, to measure change across time on the variables of assessment of services, consumer capabilities, and consumer outcomes, change scores were computed for every measure by taking the post-test score minus the pre-test score. Positive values for a change score indicate positive change across time, while negative values would indicate negative change. Then, correlations were computed for the association between amount of fidelity and amount of change. If more fidelity is associated with positive change, the correlation would be positive, and if more fidelity is associated with negative change, then the correlations would be negative. Positive correlations were expected. Correlations examined if total adherence to the process was correlated with evaluation of the RMP, change with respect to assessment of services across time, and perceptions of consumer capabilities for staff. These same relationships were examined for consumers along with change on the Outcomes measure. None of the correlations were significant for staff. For consumers, though, fidelity to the process correlated positively with evaluations of the RMP \( (r = .71, p < .001) \). There was also a significant correlation between fidelity and positive change in ratings of consumer (self) capability, \( r = .59, p < .05 \).

Qualitative Data. Staff and consumers were asked open-ended questions about what they liked best about the recovery process and what they would most like to change about the process. Staff members liked the following issues in order of frequency: steps in the process, philosophy of recovery, and then the process of prioritizing the goals. The most common changes recommended in order of frequency were to simplify the paperwork, provide more client education, provide more staff support, and use the model with other populations.

Consumer responses in order of frequency for what was liked most were working with staff, the process itself, “everything,” the philosophy involving a holistic approach, and the time set aside to review the treatment plan. In terms of what consumers most wanted to change, the most frequent issue mentioned was “nothing,” followed by making the process less complicated, having more frequent visits in treatment, providing more education for consumers, providing more training for staff, and making use of the notebook like a homework assignment.

Study of an additional control group – Highland County

Several findings led us to the conclusion that all three of our consumer groups and both staff groups were affected by the recovery process—that there was a “spread” of recovery ideas across the system. Most of the effects that were statistically significant involved the effect of time on all groups, when it was expected that effects should only occur for the trained staff and the experimental group of consumers. When our system was assessed at the pre-test, it was determined to be “recovery ready.” In addition, almost all staff and most of the consumers had heard of the recovery model at the pre-test. For these reasons, we decided that our control groups were probably not adequate controls as the effects of the recovery model spread to all groups. Thus we decided to collect data from another control group that was
not in our county or mental health system, and who we expected to be more naïve about recovery than our group. We collected data from 17 staff and 35 consumers in Highland County. Staff volunteered to participate and filled out anonymous questionnaires at a staff meeting. Consumers were tested in a manner similar to that described above, except they were tested at a consumer center.

For staff, a series of analyses compared measures from the Highland control group to post-test measures of the trained staff. With respect to assessment of services, a series of independent group t-tests were conducted, and it was found that for 10 of the 16 items on the assessment scale, the Highland staff indicated a higher frequency of encouraging these issues in treatment, compared to trained staff at the post-test. This pattern is very similar to what was seen among both our trained staff and our untrained staff at the pre-test--they rated the frequency that they encouraged these behaviors high at the pre-test (but at the post-test revised this assessment so that it was significantly lower).

In terms of assessment of consumer capabilities, trained staff rated consumers as more capable of working on two of the recovery issues compared to staff from Highland County; for “finding meaningful employment,” trained staff \( (M = 3.37, SD = .81) \) had a higher score than Highland County \( (M = 2.76, SD = .83) \), \( t (34) = 2.20, p < .05 \); and for “educating themselves about psychiatric medication” trained staff had a higher assessment score \( (M = 3.47, SD = .84) \) than Highland County staff \( (M = 2.82, SD = .88) \), \( t (34) = 2.26, p < .05 \). No other items differed significantly, although they were generally in the direction of higher scores from trained staff compared to the Highland control.

Another set of independent groups t-tests compared the responses from the Highland control group of consumers to the post-test responses of the experimental group of consumers. The experimental group of consumers rated four of the recovery-oriented issues as more frequent in their treatment compared to the Highland control. For “finding meaningful employment” the experimental group had a higher rating \( (M = 2.65, SD = 1.35) \) than the Highland group \( (M = 1.97, SD = 1.45) \), \( t (78) = 2.16, p < .05 \). Second, for “resisting others’ decision-making,” the experimental group had a higher rating \( (M = 3.37, SD = 1.27) \) than the Highland control \( (M = 2.70, SD = 1.40) \), \( t (78) = 2.24, p < .05 \). For “participate in self-help organizations,” the experimental group score was higher \( (M = 3.50, SD = 1.31) \) than that of the Highland control \( (M = 2.71, SD = 1.62) \); \( t (78) = 2.41, p < .05 \). Finally, for “being involved in the larger community,” the experimental group had a higher score \( (M = 2.48, SD = 1.54) \) than the Highland control \( (M = 1.76, SD = 1.33) \), \( t (78) = 2.17, p < .05 \).

Assessment of consumer self-capability was also examined. There was only one significant difference across all 16 issues--“resisting others’ decision making,” with the experimental group giving a higher rating \( (M = 3.59, SD = .86) \) than the Highland control \( (M = 3.09, SD = 1.18) \); \( t (78) = 2.16, p < .05 \).

We also compared the experimental group to the Highland group on the Outcomes measures. On the ODMH Outcomes System measure the only significant difference was that the experimental group had higher self-esteem/self-efficacy scores \( (M = 2.32, SD = .81) \) than the Highland control \( (M = 1.99, SD = .46) \) \( t (78) = 2.11, p < .05 \).

Finally, similar to what we did for our consumers and staff, we compared the Highland staff and Highland consumers on their assessment of services. A similar pattern emerged to what we saw between our staff and consumer groups at the pre-test. The staff members rated that they encouraged the recovery-oriented issues more than the consumers perceived that this was the case. It might be expected that this pattern would change after introduction of recovery concepts into the Highland system.
Discussion

There were some statistically significant effects of time found in this study. However, these effects occurred for all groups--for trained and untrained staff members, and for all three of the groups of consumers. Most of these time effects were consistent with what was predicted for trained staff and the experimental group of consumers. These expected effects were that all staff felt consumers more capable of working on some recovery issues at the post-test compared to the pre-test, and all consumers felt themselves more capable of working on some recovery issues at the post-test compared to the pre-test. All consumers showed better outcomes in terms of less symptom distress, and they used fewer units of treatment services. What these time effects show is that the effects of the introduction of the recovery process likely affected everyone, not just trained staff and the experimental group of consumers. In other words, there was diffusion of the effects of the recovery model across the system. It is likely that trained staff members talked about recovery with untrained staff, leading to change across all staff. It is likely that all staff became better partners in treatment with consumers. In addition, recovery was being espoused at both of the consumer-operated recovery centers in the community.

The changes across time in assessment of services suggest that there were changes that occurred across time in what was happening in treatment for all groups. Staff members appeared to emphasize these issues less across time, yet consumers perceived that these issues were dealt with more across time. Staff and consumers moved closer together in their assessments of services across time, perhaps due to forming a better partnership.

For consumers, fidelity to the recovery model did lead to more change, but that was not true for staff members. It could be that staff members’ ratings of fidelity were not accurate or perhaps that there was restricted range on the variable. In addition, there was a small number of staff members who filled out this scale, leading to low power for the analysis.

The qualitative data showed that staff members perceived the recovery model positively, but perhaps not as positively as consumers. Staff members reported that what they liked about the model were the issues of steps in the process, philosophy of recovery, and then the process of prioritizing the goals. They did not like the amount of paperwork involved in using both the RMP and the ISP, and they felt that there needed to be more support for consumers and staff using the model. Consumers reported that they liked working with staff, they liked the process itself, “everything” about the process, the philosophy of Recovery, and the fact that time was spent on the treatment plan. They did feel that the process was complicated and advocated more training, however.

These data suggest that there were some measurable changes in services that occurred across time in our mental health system. Both trained staff and the experimental group of consumers indicated fidelity to the recovery model and listed positive aspects of the process in the qualitative data. These changes in services, perceived by all groups of consumers, led to better outcomes in terms of less symptom distress and some changes in terms of consumers’ assessment of their self-capability and staff members’ perceptions of consumers capability. More change was found in the process of what was happening in treatment rather than in specific outcomes. It could be that more time needs to pass before reliable changes in outcomes will be found. Through recovery models staff and consumers should form better partnerships, and we will no longer see people with mental illness as disabled but as “real people who can move on with their lives” (Ralph et al., 2002).
REFERENCES


EXPOSURE TO VIOLENCE AND AGGRESSIVE BEHAVIOR IN YOUTH WITH PSYCHIATRIC DISTURBANCES

Medical College of Ohio

Michele S. Knox, PhD          Michael P. Carey, PhD
Wun Jung Kim, MD, MPH        Tiffany Marciniak, BA

Youth today report alarmingly high rates of witnessing, perpetrating, and otherwise experiencing violence (Moffitt, 1993; Singer, Anglin, Song, & Lunghofer, 1995). Violent crime peaks in late adolescence, at approximately 17 years of age (Moffitt, 1993). In particular, aggression in youth with severe emotional and behavioral disturbance appears to be an increasing public health problem.

Several factors may increase the risk for aggression in adolescents with severe emotional and/or behavioral disturbance. Research indicates a link between clinical depression and aggressive behavior in youth. For example, results of a recent study (Knox, King, Hanna, Logan, & Ghaziuddin, 2000) indicated that treatment-seeking adolescents with depression engage in markedly high levels of aggression. This supports prior findings indicating higher levels of aggressive behavior and conduct disorder in depressed youths (McCracken, Cantwell, & Hanna, 1993). Further, research has indicated that future aggressive behavior is heightened in youths with pre-existing depression (Schubiner, Scott, & Tzelepis, 1993).

Substance abuse and dependence may also influence the development of aggression; the effects of alcohol and drug use on neurophysiological and cognitive processes have been implicated in the etiology of severe aggressive behavior (e.g., Bushman, 1997). Use of substances such as alcohol and cocaine is associated with violence severity (Chermack & Blow, 2002).

Exposure to violence is another factor that appears to be associated with the increased risk for aggression. American youth report witnessing violence at extremely high rates (Singer et al., 1995), and recent research indicates significant associations between witnessing violence and victimization and the development of aggressive behavior in youth (e.g., Gorman-Smith & Tolan, 1998). Further, the interaction between psychiatric or neurological vulnerabilities and a history of abuse or family violence has been shown to be the best predictor of violence in adults (Otnow Lewis, Loely, Yeager, & Della Femina, 1989). The cumulative effects of psychiatric disturbance and exposure to violence may place youth at highest risk for future violence.

Although past research indicates significant psychiatric disturbance and high risk for aggressive behavior among formerly hospitalized youth (Knox et al., 2000), little is known about effective treatments for this group. Externalizing problems such as aggression are the most often-cited reason for youth mental health treatment; approximately half of children present for mental health treatment because of aggressive behavior (O'Donnell, 1985). Past research indicates significant psychiatric disturbance and high risk for aggression among formerly hospitalized youth (Knox et al., 2000). Research indicates that at least half of the youths treated for externalizing problems do not demonstrate long-term improvement (McMahon & Forehand, 1994).

The search for effective treatments specific to adolescents with aggressive behavior problems has identified a number of ineffective treatment modalities. In fact, some treatments, such as group therapy for aggressive youths, have been found to be detrimental (Brewer, Hawkins, Catalano & Neckerman, 1995). Other treatments, such as individual psychodynamic therapy or insight-oriented therapy have failed to demonstrate effectiveness (Tate, Reppucci, & Mulvey, 1995). Outpatient treatment for
aggression sometimes includes the use of medications such as mood stabilizers (e.g., lithium carbonate) or anticonvulsants (e.g., carbamazepine). Although some research exists addressing the effectiveness of these treatments in adults, empirical research on the use of medications for aggression in youth is strictly limited.

In addition to treatment type, treatment satisfaction has been proposed as an important variable of interest in mental health systems seeking to maximize outcomes as well as consumer satisfaction. Research with adults indicates strong relationships between client satisfaction ratings and client reports of global outcome (Lebow, 1983), and perhaps for this reason, funding and policy decisions are made based on satisfaction data. One study indicates that youth satisfaction with treatment relates to parent and clinician-reported improvement in behavior, but not to youth-rated improvement (Shapiro, Welker, & Jacobson, 1997). Research on parent satisfaction with youth mental health treatment is strictly limited (e.g., Kotsopoulos, Elwood, & Oke, 1989), and no research to date has addressed associations between parent satisfaction and youth aggression. If important decisions are to be made based on treatment satisfaction data, it is imperative that we better understand if satisfaction is related to outcome or recovery.

The following hypotheses are examined in the present study:
1. Exposure to violence variables will contribute significantly to the prediction of aggressive behavior above and beyond that predicted by age, gender, and socioeconomic status (SES);
2. Attitudes toward violence will contribute to the prediction of aggressive behavior above and beyond the prediction by exposure-to-violence variables, age, gender, and SES;
3. Youth with higher levels of aggressive behavior will be characterized by higher levels of exposure to violence and presence of depressive disorder and substance dependence;
4. Gender will correlate significantly with violence exposure and attitudes toward violence.
5. The following questions will be examined:
   5a. What outpatient services most aid in recovery/improvement?
   5b. Do intensive mental health services improve recovery?
   5c. Are child and parent satisfaction ratings related to changes in aggression?

Method

Participants. Participants were 120 13 to 17 year old adolescents who were referred for inpatient psychiatric treatment in the Medical College of Ohio Kobacker Center. Individuals who were unable to complete study measures due to intellectual limitations (e.g., moderate to profound mental retardation) or psychosis were excluded from the study. The mean age of the sample was 14.66 years (SD = 1.38). Of the total sample, 45.8 percent were male, and 54.2 percent were female. The sample was primarily (87.5%) White/Caucasian, with 5.8 percent Black/African-American, 1.7 percent Hispanic/Latino/Latina, 0.80 percent Native American/American Indian, and 4.2 percent Biracial. The sample did not differ from the larger population of 13 to 17 year olds admitted to the Kobacker Center inpatient unit with respect to age ($t = -0.56; p = .58$), gender ($\chi^2(1) = 1.15 ; p = .28$), and race ($\chi^2(1) = 1.46 ; p = .69$).

A full range of SES was represented in the sample. Mean socioeconomic index score (Stevens & Featherman, 1981), based on mothers’ occupations, was 31.46 (e.g., sales clerk; SD = 17.49). Parent occupation scores ranged from 11.44 (textile workers) to 75.27 (engineers).

In sum, 55 participants and 52 parents/caretakers completed Phase 2 measures. The Phase 2 adolescent participant sample was 61.8 percent female and 38.2 percent male. Similar to the Phase 1 sample, the Phase 2 sample was primarily (85.5%) White/Caucasian, with 5.5 percent Black/African-American, 1.8 percent Hispanic/Latino/Latina, and 7.3 percent Biracial. The mean age was 15.93 (SD =
1.35). The mean socioeconomic index score, based on mothers’ occupations, was 30.53 (e.g., sales clerk; \(SD = 17.52\)). Parent occupation scores ranged from 11.44 (textile workers) to 79.43 (college professors).

**Procedure.** At their initial appointments, participants and their caregivers were provided Informed Consent Forms and asked to provide consent for their participation in the study. Adolescent participants completed the Diagnostic Interview for Children and Adolescents-Fourth Edition (DICA-IV), Screen for Adolescent Violence Exposure (SAVE), Buss-Durkee Hostility Inventory (BDHI), Adolescent Aggressive Incidents Interview (AAII; Child Version), Personal Experience Screening Questionnaire (PESQ) and the Attitudes Towards Violence Scale (ATVS).

The DICA-IV is a well-established, validated structured diagnostic interview. The DICA has been found to demonstrate high correspondence (81.5% agreement) with clinician diagnoses for psychiatric inpatients, aged seven to 27 years (Welner, Reich, Herjanic, & Jung, 1987).

The BDHI is a self-report measure of aggressive behavior. Scores on this measure have been found to distinguish between aggressive and nonaggressive groups in home and institutional settings, and to correlate with adolescents’ scores on the Conflict Tactics Scale (Boone & Flint, 1988). Alpha coefficients have been reported as 0.88 for aggression toward friends and 0.92 for aggression toward strangers (Boone & Flint, 1988). In the present study, Alpha coefficients were 0.96 for the total scale, 0.94 for the aggression toward friends subscale, and 0.95 for the aggression toward strangers subscale.

The AAII is a nine-item adaptation of the Brown-Goodwin Assessment for Lifetime History of Aggression (Brown, Goodwin, Ballenger, Goyer, & Major 1979), which was adapted to assess aggressive behavior in adolescents. The internal consistency of the measure has been reported to be high (Cronbach’s alpha = 0.96) in a study using an adolescent inpatient sample (Brent et al., 1993). In the present study, Alpha coefficients were 0.75 for the total scale, 0.62 for the three-item home subscale, 0.73 for the two-item school subscale, and 0.77 for the community/legal subscale. Further, the validity of the measure is supported by high correlations with other measures of aggressive behavior in youth (Knox et al., 2000).

The PESQ is a well-validated 40-item self-report measure of adolescents’ alcohol, illicit drug and inhalant use. The scale has demonstrated good internal consistency (alpha coefficients of 0.90-0.95). The measure's validity is supported by its ability to distinguish between groups of adolescents with and without significant drug treatment histories (Winters, 1991).

The ATVS addresses attitudes toward the use of violence. The Attitudes Toward Violence Scale (Funk, Elliott, Urman, Flores, & Mock, 1999) demonstrates good internal consistency reliability (Cronbach’s alpha = 0.86), and scores correlate with violent victimization.

The SAVE evaluates level, type, and context of violence exposure over the past year. Internal consistencies for the Screen for Adolescent Violence Exposure subscales have been reported to range from 0.90 to 0.94, and test-retest reliability ranges from 0.91 to 0.92 (Hastings & Kelley, 1997). The scale correctly classified known low and high violence groups. Scores correlate positively and significantly with independent violence data.

Adolescents’ primary caregivers were interviewed separately and asked to complete the Adolescent Aggressive Incidents Interview (Parent Version), Child Behavior Checklist-Parent Form, and a brief demographic questionnaire.

The AAII parent version is an identical scale to the AAII adolescent self-report version, but evaluates parents' report of adolescent's aggressive behavior. In a recent study, Alpha coefficients for the
adapted parent-report version were 0.75 for the total scale, 0.77 for the Home subscale, and 0.67 for the School/Community subscale (Knox et al., 2000). In the present study, Alpha coefficients were 0.78 for the total scale, 0.66 for the three-item home subscale, 0.83 for the two-item school subscale, and 0.58 for the community/legal subscale.

The Child Behavior Checklist-Aggressive Scale was used to measure parent-reported aggression in adolescents. The scale is well established, and has been reported to have high test-retest reliability, internal consistency and discriminant validity (Achenbach & Edelbrock, 1983).

Each adolescent participant received $10 for completion of the study measures. Caregivers who completed study measures also received $10 for completion of the measures.

Participants and their caretakers were recontacted for participation in the second phase of the project one year after their participation in Phase 1 of the study. For Phase 2, adolescent participants were asked to complete the SAVE, BDHI, ATVS, PESQ and AAII. They also completed a revised version of the Youth Client Satisfaction Questionnaire, which assessed satisfaction with mental health treatment received in the interim between Phase 1 and Phase 2. The scale demonstrates good (Cronbach's alpha = .90) internal consistency and three- to four-week test-retest reliability ($r$ = .92). Scores have been found to correlate with parent-reported behavior changes, benefits of treatment, GAF scores, and therapist-rated improvement (Shapiro et al., 1997). In the present study, the Cronbach's alpha coefficient for the scale was 0.95.

Adolescents’ primary caregivers reported type and level of participation in treatment over the prior year addressing aggressive behavior. They also completed a revised version of the Parent Satisfaction Questionnaire (Kotsopoulos et al., 1989) that assesses satisfaction with mental health treatment received in the interim between Phase 1 and Phase 2. The internal consistency Alpha coefficient for the scale was 0.90 in the present study.

Parents also completed the AAII, the Child Behavior Checklist-Parent Form, and a brief demographic questionnaire. Each adolescent participant received $10 for completion of the phase two study measures. Caregivers also received $10 for completion of the phase 2 parent measures.

**Results**

Mean exposure to violence scores on the SAVE were below the cutoff scores classifying high exposure to violence groups (Hastings & Kelley, 1997). The sample’s mean score on the Child Behavior Checklist – Aggression Scale falls in the clinically elevated range. Mean scores on the BDHI are below the mean for a comparison group of adolescents institutionalized for aggression, but above those for a group of nonaggressive, noninstitutionalized adolescents (Boone & Flint, 1988). Based on responses to the Buss Durkee Hostility Inventory Assault subscale, results indicate that 76.3 percent of the participants reported engaging in at least one incident of physical aggression toward friends per week; 58.8 percent reported physical aggression toward strangers per week.

Hierarchical regression analyses were used to address hypotheses #1 and #2. Because of the measure's superior reliability, scores on the BDHI were used as the dependent variable. In the analysis, age, gender, and SES were entered in the first block. These variables accounted for three percent of the variance in aggressive behavior scores ($R^2 = .03$). In the second block, exposure to violence (SAVE) scores were entered. This model accounted for 28 percent of the variance in aggressive behavior scores ($R^2 = .28$). The change in $R^2$ was statistically significant ($R^2$ change = .25; $F = 28.72; p < .001$). In the next block, attitudes toward violence (ATVS) scores were entered. This resulted in a significant change in $R^2$ (.06; $F = 7.95; p < .01$). The model accounted for 34 percent of the variance in aggressive behavior.
scores. A similar analysis was attempted with Phase 2 aggression as the dependent variable. However, none of the predictors were significant, and the same model accounted for only 11 percent of the variance. This is likely due to attrition; data for all of these variables (Phase 1 parent and adolescent measures and Phase 2 adolescent measures) were available for only 43 participants.

SAVE and ATVS subscale scores were entered as predictors of aggressive behavior scores in a stepwise multiple regression analysis. Independent predictors were exposure in the home, school and neighborhood. In this analysis, significant predictors were exposure to violence in the school ($R^2 = .28; F = 42.37; p < .0001$), followed by reactive violence attitudes ($R^2$ change = .06; $F = 10.13; p < .01$), accounting for 34 percent of the variance in aggressive behavior scores.

A paired samples $t$-test was completed to determine whether the participants who completed Phase 2 measures demonstrated a change in aggressive behavior. This analysis revealed a significant decrease in aggression ($t = 2.21; p < .05$) in the year between Phase 1 and Phase 2. Repeated measures analysis of variance was used to address hypothesis #3. The within-subjects factor was time (Phase 1 versus Phase 2), and between-subjects factors were depression (Phase 1 Major Depressive Disorder or Dysthymic Disorder on the DICA-IV), substance abuse (use of illicit drugs or use of alcohol and at least one illicit drug on the PESQ), and exposure to violence (violence exposure over the past year, as reported at Phase 2, using two groups defined by a median split). Adolescent reported aggressive behavior on the BDHI was the dependent variable. As hypothesized, there was a trend for a main effect of depression ($F = 3.81; p < .06$), and the main effect of violence exposure was statistically significant ($F = 7.96; p < .01$). However, time and substance abuse main effects were not significant ($F = 2.73; p = .11; F = .06; p = .81$).

There were no significant gender differences on any of the exposure to violence, attitudes toward violence, or aggression variables. Therefore, further analyses addressing gender differences were not pursued.

To determine characteristics of the youth who made the most improvement in aggressive behavior, the sample was divided into quartiles based on change in aggression scores from Phase 1 to Phase 2. The resulting upper quartile was made up of 13 participants who gained 36 or more points on the BDHI between Phase 1 and Phase 2, indicating increased aggression. The lower quartile consisted of 12 participants whose aggressive behavior declined as evidenced by decreases of six or more between Phase 1 and Phase 2. Independent sample $t$-tests and chi square analyses indicated that the groups did not differ in terms of gender, age, race or SES. There were also no group differences on Phase 1 DICA-IV diagnosis. However, the groups differed with respect to Phase 1 attitudes toward violence. Participants demonstrating the most improvement had higher initial pro-violence attitudes than those with the least improvement ($t = 5.81; p < .05$). Participants demonstrating the most improvement had higher initial pro-violence attitudes on both subscales compared to those with the least improvement; they had higher reactive violence attitude scores ($t = 4.87; p < .05$) as well as higher culture-of-violence attitude scores ($t = 6.56; p < .05$). Paired samples $t$-tests indicated that participants who improved demonstrated a trend for decreased culture of violence attitudes ($t = 2.06; p = .06$).

There were significant differences between the groups on presence or absence of family therapy/parent training [$\chi^2(1) = 4.65; p < .05$]. Those with family therapy/parent training between Phase 1 and Phase 2 demonstrated improvement (less aggression); those who did not have family therapy/parent training were more likely to belong to the group demonstrating increased aggression. There were no group differences on other treatment variables, including medication management, individual therapy, group therapy, case management, and intensive services.

Hierarchical regression was used to address whether child and parent satisfaction ratings related to changes in aggression. In this analysis, the Phase 2 aggression score was the dependent variable. In
order to control for Phase 1 aggression, this variable was entered in the first block. This variable accounted for three percent of the variance in Phase 2 aggressive behavior scores ($R^2 = .03$). In the second block, youth and parent treatment satisfaction scores were entered. The change in $R^2$ was statistically significant ($R^2$ change = .29; $F = 3.50; p < .05$). This model accounted for 31 percent of the variance in aggressive behavior scores ($R^2 = .31$). Standardized beta weights for the variables were as follows: Phase 1 aggression .16 ($t = 0.70; p = .49$); Youth Client Satisfaction Questionnaire scores -.40 (partial correlation -.32; $t = -1.93; p < .07$); Parent Satisfaction Questionnaire scores .44 (partial correlation .37; $t = 2.12; p < .05$).

**Discussion**

This sample reports high levels of aggressive behavior. Participants demonstrated high, clinically significant levels of aggression. Results underscore the severe behavior disturbances evident in youth who seek inpatient hospitalization, and provide compelling evidence of the need for effective interventions for this high-risk group.

A major goal of this study was to identify risk factors for aggression in youth with psychiatric disturbances. Results indicate that violence exposure contributes to the prediction of aggression above and beyond that made by demographic variables. These results indicate that exposure to violence is associated with heightened levels of aggression in inpatient adolescents. The amount of violence to which an adolescent is exposed is an indicator of whether that adolescent will demonstrate higher levels of aggressive behavior; this variable tells us more about the risk for aggression than do demographic variables such as gender, SES, and age. This finding concurs with the latest literature that now suggests that violence exposure is a grave stressor on youth, and leads to serious emotional and behavioral problems in America's young people. In fact, research suggests witnessing violence may be as or more distressing to youth than actually being the victim of violent acts. Results of this study suggest that violence exposure in the school is most predictive of youth aggression.

Attitudes toward violence emerged as a prominent variable in both the prediction of aggressive behavior and the factors related to attitudes were characteristic of those with the highest levels of improvement. Findings indicate a reduction in attitudes indicating, for example, that the world is a dangerous place and that one must be vigilant and prepared to attack others, is associated with reduced aggression. This concurs with research indicating changes in attitudes toward violence are associated with changes in behavior (Guerra & Slaby, 1990; Vernberg & Jacobs, 1999), and indicates a need to minimize pro-violence attitudes in at-risk youths.

Another main goal was to examine prospectively whether aggressive behavior is heightened in youth with preexisting depressive and substance use disorders who are also exposed to high levels of violence. Results revealed a trend for a main effect of depression, indicating that there was a trend for participants who were depressed at Phase 1 to have higher levels of aggression at Phase 2. Given that this was a trend, this finding remains very tentative.

Substance abuse did not surface as a characteristic of youth who will experience higher levels of aggression. It may be that a more detailed analysis of specific drugs, frequency and intensity of use, and their relation to aggressive behavior will better address this question. That is, the repeated use of certain illicit drugs such as cocaine and alcohol may lead to increased aggression, whereas others may not.

The present study demonstrated numerous gender similarities, and no gender differences. The similarity in aggressive behavior among male and female treatment seeking adolescents was found in a previous study (Knox et al., 2000). This finding may suggest an increase in physical aggression observed in females over the past decade (Tardiff, Narzuk, Leon, Portera, & Weiner, 1997), and indicates that
gender differences in aggression may be diminishing. It also may be related to the significant psychopathology characteristic of treatment-seeking youths.

Despite the bleak picture illustrated by participants’ aggressive behavior reports at Phase 1, results did indicate a significant decrease in aggression in the year following inpatient hospitalization. Another encouraging finding from the study was the high level of involvement in mental health treatment following inpatient hospitalization. Results indicated that nearly all participants received some form of outpatient treatment. Of several treatments studied, family therapy/parent training emerged as the treatment most characteristic of youth demonstrating decreased aggression. This finding concurs with research by Grizenko (1997) that indicated parents' involvement in family therapy was the most important predictor of positive outcomes following day treatment. This finding also adds support to the empirical validation of parent and family-focused treatments, such as parent-child treatment and multisystemic therapy which address family functioning, as effective treatments for youth aggression (Moeller, 2001). Unfortunately, only 28.8 percent of the sample received this intervention; had more of the sample had received this intervention; there may have been more improvement among the participants.

Results regarding treatment satisfaction were mixed. First, there was a trend indicating that participants with lower levels of aggression reported higher levels of treatment satisfaction. This would indicate that youth who experience improvement in aggression were more satisfied with the treatment they received. In contrast, the parents/caretakers of more aggressive participants reported significantly higher levels of treatment satisfaction. This finding was unexpected and may indicate that parents of children with severe aggression are in need of more support, and therefore experience more satisfaction when in contact with treatment providers. To our knowledge, this is the first study addressing parent satisfaction with youth treatment and behavioral change. Given the increasing reliance of satisfaction ratings as indicators of treatment effectiveness, more research in this area is clearly needed.

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**Other Publications of the Research to Date**


**Paper Presentations of the Research to Date**


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Marciniak, T., Knox, M., Carey, M., & Kim, W.J. (2002). *Where did they go? Indicators of instability in the lives of formerly hospitalized adolescents*. Poster presentation at the 2002 Medical College of Ohio Annual Symposium on Research in Psychiatry, Psychology, and Behavioral Science, Toledo, OH.


Marciniak, T., Knox, M., Carey, M., & Kim, W.J. (2001). *Male prevalence in youth aggression: Dispelling the myth*. Poster presentation at the 2001 Medical College of Ohio Annual Symposium on Research in Psychiatry, Psychology, and Behavioral Science, Toledo, OH.

The evolving system of care for children and adolescents with severe emotional disturbances (SED) attaches greater emphasis on placing children in a setting with the least restrictive level of care. One of the framing values for building a system of care includes the following principle: “Children with emotional disturbances should receive services within the least restrictive, most normative environment that is clinically appropriate” (Stroul & Friedman, 1986, p. 20). Therefore, the current emphasis is placed on providing services that are less restrictive, and more likely to keep a child in his or her home environment (Fields & Ogles, 2002).

Based on least restrictive alternative principles, there should be correspondence between the restrictiveness of a particular treatment program and the severity of the emotional or behavioral disorder that a child displays. If such a relationship did not exist, then it would be more difficult for clinicians to justify the usage of more restrictive types of treatment (e.g., residential treatment, inpatient care) for children. Indeed, researchers in the past few decades have found evidence that this relationship may not be solid, and youth with less severe problems are sometimes served in environments that may be overly restrictive (Friedman & Street, 1985; Gottlieb, Reid, Fortune, & Walters, 1990).

Few investigators have evaluated the relationship between program restrictiveness and youth functioning. Table 1 provides a summary of all empirical studies that have been done to date on this topic. As can be seen by the paucity of research, more work needs to be done. Furthermore, the results have been equivocal in all but the most recent studies on restrictiveness and youth functioning. In fact, only two of the nine studies revealed a hierarchical relationship among youth groups on various levels of the continuum of care.

The most comprehensive investigation of program restrictiveness and youth functioning was done by Handwerck, Friman, Mott, and Stairs (1998). The authors utilized the Child Behavior Checklist (CBCL; Achenbach, 1991) and its subscales as outcome measures in this study to determine the functioning of children and adolescents. Unlike the seven prior studies that focused on a smaller slice of the available services for youth, Handwerck, et al. (1998) assessed seven levels on the continuum of care: parent training, outpatient treatment, family preservation program, therapeutic foster care, acute-care shelter, residential group home, and inpatient hospitalization. When CBCL scores were compared among groups receiving different types of treatment, a linear relationship between program restrictiveness and youth functioning was found. Youth who were involved in more restrictive programs had more behavioral and emotional problems as indicated by CBCL scores, and this difference was more dramatic when children at opposite ends of the continuum of care were compared.

Purpose of the Study

The present study was designed to evaluate the continuum of care and determine whether there indeed is a relationship between restrictiveness of care and youth functioning. The present study went a step further than the Handwerck et al. (1998) study by including a repeated measure component after six to eight weeks of treatment. The link between youth Functioning and Problem Severity, as measured by
the Ohio Scales (Ogles, Melendez, Davis, & Lunnen, 1998), was investigated as it relates to the services provided in the following four treatment programs: outpatient, day treatment, therapeutic foster care, and residential treatment. The following was hypothesized:

- **Hypothesis 1:** Adolescents who have lived in more restrictive environments for the three months prior to treatment will have more mental health problems and poorer Functioning.
- **Hypothesis 2:** Adolescents referred to more restrictive treatment programs (e.g., residential treatment) at the time of intake will have poorer Functioning and greater Problem Severity.
- **Hypothesis 3:** Changes in the treatment program for adolescents after six to eight weeks, as a whole, will correspond with changes in Problem Severity and Youth Functioning.
- **Hypothesis 4:** At both intake and at the six- to eight-week interval, primary caregivers will rate the adolescents less favorably (lower Functioning, greater Problem Severity) than both agency workers and adolescents.

**Methodology**

The parents of 141 youth aged 12 to 17 years receiving mental health services in four programs of varying restrictiveness were solicited for voluntary participation in the study. The four program types, in ascending order of restrictiveness were: 1) outpatient therapy, 2) therapeutic foster care, 3) partial hospitalization, and 4) residential group home.

**Instruments**

**Ohio Scales.** The Ohio Scales (Ogles, Melendez, Davis, & Lunnen, 1998) is a practical, brief, easy to administer, psychometrically sound instrument that can be given at regular intervals throughout the treatment of children and adolescents. One advantage of the Ohio Scales is that it has parallel rating forms for youth (12-17 years), primary caregivers, and agency workers.

**Restrictiveness of Living Environments Scale.** The ROLES (Hawkins, Almeida, Fabry, & Reitz, 1992) is a clinical measure of the restrictiveness of residential settings for adolescents and children where higher scores represent more restrictive settings. The scale ranges from 0 (independent living by self) to 10 (jail), with each increasing score of .5 representing one step toward greater restrictiveness of living environments.

**Procedure**

Those parents who agreed to have their child included in the study participated in a brief assessment. Identifying data on the Ohio Scales was gathered to begin the assessment, followed by administration of the Restrictiveness of Living Environments Scale (ROLES) based on the residence of the adolescent for three months prior to treatment. The agency worker completed the ROLES, and the Ohio Scales were then filled out by the youth, agency worker, and primary care provider.

After six to eight weeks of treatment, the Ohio Scales were again completed by the youth, agency worker, and primary care provider. Statistical analyses were performed on data obtained. The sample was divided based on program type, and Ohio Scales scores were compared among the four groups.
<table>
<thead>
<tr>
<th>Author, Year</th>
<th>Functioning Measures</th>
<th>Setting</th>
<th>Difference</th>
<th>Hierarchical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Peterson et al. 1983</td>
<td>Categorical Measure</td>
<td>Educational</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>2. Bullock et al. 1985</td>
<td>Behavioral Dimensions Rating Scale (BDRS)</td>
<td>Educational</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>3. Hundert et al. 1988</td>
<td>Child and Adolescent Adjustment Profile (CAAP); Bristol Social Adjustment Guide (BSAG); The Family Assess. Measure (FAM); Piers-Harris Children’s Concept Scale</td>
<td>Mixed: Educational and Treatment</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>4. Dore et al. 1992</td>
<td>Child Global Assessment (CGAS)</td>
<td>Treatment</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>5. Friman et al. 1993a</td>
<td>Eyberg Child Behavior Inventory Child Behavior Checklist (CBCL)</td>
<td>Mixed: Treatment and Non-Clinic</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>6. Friman et al. 1993b</td>
<td>Child Behavior Checklist (CBCL)</td>
<td>Treatment</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>7. Zimet et al. 1994</td>
<td>Louisville Behavior Checklist</td>
<td>Treatment</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>8. Bickman et al. 1996</td>
<td>Child Assessment Schedule (CAS) Burden of Care Questionnaire</td>
<td>Treatment</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>9. Handwerk et al. 1998</td>
<td>Child Behavior Checklist (CBCL)</td>
<td>Treatment</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Table 2. Ohio Scales scores One-Way ANOVA for intake

<table>
<thead>
<tr>
<th>Ohio Scales Measures</th>
<th>Outpatient</th>
<th>Ther. Foster Care</th>
<th>Partial Hosp.</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>1. Agency Problem Severity&lt;sup&gt;b&lt;/sup&gt;</td>
<td>25</td>
<td>28.5</td>
<td>14.9</td>
<td>35</td>
</tr>
<tr>
<td>2. Agency Functioning&lt;sup&gt;b&lt;/sup&gt;</td>
<td>25</td>
<td>42.6</td>
<td>12.5</td>
<td>34</td>
</tr>
<tr>
<td>3. Parent Problem Severity&lt;sup&gt;a&lt;/sup&gt;</td>
<td>25</td>
<td>30.0</td>
<td>18.1</td>
<td>11</td>
</tr>
<tr>
<td>4. Parent Functioning</td>
<td>25</td>
<td>41.2</td>
<td>12.6</td>
<td>11</td>
</tr>
<tr>
<td>5. Youth Problem Severity&lt;sup&gt;a&lt;/sup&gt;</td>
<td>23</td>
<td>24.2</td>
<td>18.2</td>
<td>12</td>
</tr>
<tr>
<td>6. Youth Functioning&lt;sup&gt;a&lt;/sup&gt;</td>
<td>23</td>
<td>59.4</td>
<td>13.6</td>
<td>11</td>
</tr>
</tbody>
</table>

<sup>a</sup>Ohio Scales F significant, <sup>b</sup>p < .001.

Table 3. Comparison of Ohio Scales scores by raters

<table>
<thead>
<tr>
<th></th>
<th>Problem Severity&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Functioning&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Youth</td>
<td>22.7</td>
<td>16.7</td>
</tr>
<tr>
<td>Parent</td>
<td>29.8</td>
<td>16.2</td>
</tr>
<tr>
<td>Agency Worker</td>
<td>30.8</td>
<td>14.4</td>
</tr>
</tbody>
</table>

<sup>a</sup>Overall t significant, <sup>p</sup> < .001
Results

Hypothesis 1: Previous Placement and Current Functioning. Zero-order correlations provided an illustration of how restrictiveness of living environments for three months prior to assessment related to youth Functioning and Problem Severity at the time of the initial assessment from various rater perspectives. Results did not indicate a relationship among the ROLES scores and the six Ohio Scales scores, although the Ohio Scales scores were generally correlated to one another.

Hypothesis 2: Current Placement and Current Functioning. In order to determine the effects of current treatment program assignment on intake Functioning and Problem Severity, a one-way analysis of variance (ANOVA) was performed for each Ohio Scales Functioning and Problem Severity variable (agency worker, youth, and parent). In addition, only the outpatient, therapeutic foster care, and youth groups contained data from all three raters as the residential care group had only agency worker data.

Each of the six Ohio Scales Functioning and Problem Severity scores were examined and compared among the four treatment groups to determine if they differed significantly (see Table 2). Five of the six analyses attained significance, indicating a link between treatment program and Ohio Scales scores. As can be seen, the analyses for Ohio Scales Agency Worker and Youth ratings were significant for both Functioning and Problem Severity measures \((p < .05)\). The Ohio Scales primary caregiver rating was significant only for the Problem Severity measure \((p < .01)\). In general, youth in the partial hospitalization program were the most impaired, and youth in the therapeutic foster care program were the least impaired. Youth in the outpatient and residential programs were not different in terms of Functioning and Problem Severity.

Hypothesis 3: Current Placement and Changes Over Time in Treatment. To determine the effects of treatment program over time on Ohio Scales scores, scores for the four treatment programs were examined together in three separate one-within, one-between multivariate analyses of variance (MANOVA) with treatment program as the between-subjects factor and time of assessment as the within-subjects factor. Since there were three raters, analyses were performed for Ohio Scales agency worker, primary caregiver, and youth ratings with Problem Severity and youth Functioning examined in each of the separate analyses.

The multivariate tests indicated no significant main effects for the within-subjects factor (time) or the interaction for all three tests. There was a significant main effect for the between-subjects factor (treatment program) for the youth ratings, but this difference was already highlighted in the prior section detailing the ANOVAs for current placement and current functioning.

Hypothesis 4: Functioning, Problem Severity, and Three Rater Perspectives. Table 3 displays the group means and standard deviations for each scale by rater as well as denotations for significant findings. Of the three paired samples \(t\)-tests on treatment informants for problem severity, two were significant. The \(t\) test for parents vs. youth was significant, \(t (55) = -3.30, p < .01\) and the \(t\) test for agency workers vs. youth was also significant, \(t (55) = -4.38, p < .001\). Thus, youth, on average, rated problems as less severe than did parents or agency workers. In regard to youth Functioning, all three of the paired samples \(t\) tests were significant. The \(t\) test for parents vs. youth was significant, \(t (52) = 5.65, p < .001\), the \(t\) test for agency workers vs. youth was significant, \(t (53) = 7.97, p < .001\), and the \(t\)-test for parents vs. agency workers was significant, \(t (57) = 3.05, p < .01\). Youth tended to rate their own functioning highest, while agency workers rated their functioning lowest, and primary caregivers were the intermediary raters.
Discussion

The present study found that there was indeed a relationship between program restrictiveness and youth functioning, however, that relationship was not hierarchical. In fact, youth receiving services at opposite ends of the continuum of care were not significantly different in terms of Functioning and Problem Severity.

The present study and the preceding review (see Table 1) indicate that more research needs to specifically investigate the use of the least restrictive setting necessary in the treatment of children and adolescents (Fields & Ogles, 2002). It appears that the link between program restrictiveness and youth functioning is not supported by research, and that other factors are involved in youth program placement. While youth are sometimes placed in more restrictive environments because that is what may be warranted given the severity of their emotional and behavioral problems at that time (Friman, Soper, Thompson, & Daly 1993; Handwerk, Friman, Mott, & Stairs, 1998), at other times, factors such as child strengths (Oswald, Cohen, Best, Jenson, & Lyons, 2001) and the amount of familial stability and the resources available in a community are important in determining where a child is placed for treatment (Wells, 1991).

One clear-cut clinical implication of the present study is that of the importance of using multiple raters for youth behavior. Consistent with prior research, the present study found that parents and youth did not generally agree in terms of the severity of youth problems and functioning. In fact, youth in the present study followed a well-established research pattern of underestimating the magnitude of their behavioral problems in comparison to parent reports (Kazdin, Esvelft-Dawson, Unis, & Rrancurello, 1983; Thurber & Osborn, 1993).

REFERENCES


**Other Publications of the Research to Date**


**Paper Presentations of the Research to Date**


*Special thanks to the staff of Beech Acres, Cincinnati, Ohio for their help throughout this project.*
The evolution of the system of care for children with severe emotional and behavioral disorders (Stroul & Friedman, 1986) has resulted in several new and innovative services. Perhaps the most visible new approach is called wraparound services. This approach uses a family team that develops a highly individualized service plan for a child with input from multiple stakeholders. The wraparound process is viewed as a potential alternative to out-of-home placement because a unique package of supports and services can be tailored to each situation (Brown & Hill, 1996; Eber & Nelson, 1997). In addition, the theory behind the wraparound approach suggests that individualized services, which are family-centered and child-focused, are more appropriate than categorical approaches to mental health care. Although several outcomes studies have supported the wraparound approach as an alternative to traditional mental health treatment for youth (Bruns, Burchard, & Yoe, 1995; Clark, Lee, Prange, & McDonald, 1996; Eber, Osuch, & Redditt, 1996), the adherence to wraparound principles within the interventions have not been carefully studied (Rosenblatt, 1996).

One way to evaluate various wraparound interventions would be to compare them to existing criteria or principles identified to guide the wraparound process (Dennis, VanDenBerg, & Burchard, 1992). Recently, an instrument to measure the implementation of the wraparound process, the Wraparound Observation Form (WOF; Epstein et al., 1998) was developed to compare wraparound practices with theoretically important components. This study investigates the relationship of adherence to wraparound principles to child and family outcomes and satisfaction. In addition, the role of outcomes feedback within the wraparound process is examined.

A core component of the wraparound approach is the focus on specified outcomes and the inclusion of outcomes assessment (Dennis et al., 1992). However, no study has investigated the importance of tracking outcomes and providing feedback within the wraparound approach. Researchers have long studied the effects of monitoring on the successful achievement of behavioral goals (Kanfer & Gaelick-Buys, 1991) and it is clear that a heightened awareness of goals and progress increases the accountability of those involved in the therapeutic process (Hart, 1978). Similarly, several recent studies investigate the influence of feedback on patient progress in therapy (e.g., Lambert, Whipple, Smart, Vermeersch, Nielsen, & Hawkins, 2001; Lueger, 1998). This study was designed to provide information about monitoring outcomes within the family team approach. Feedback was provided to team members (including the parent) regarding the progress of the child. It was believed that increased feedback to team members would be met with greater accountability, more timely interventions, and better outcomes of services.

**Purpose of the Study**

The purpose of this study was to investigate the influence of treatment fidelity and feedback on outcomes for children and families receiving wraparound services. Specific hypotheses included: 1) Youth receiving wraparound services would have decreased problems and improved functioning; 2) Family Team meetings which had greater adherence to wraparound principles would result in better
outcomes; 3) Parents and teams that received ongoing feedback about the progress of the youth would be better informed regarding the case; and 4) Families that received feedback regarding their progress would have youth who improved more than families that did not receive feedback.

This is the third report to New Research in Mental Health regarding this study. The first report (Ogles, Fields, & Melendez, 2000) outlined the philosophy of wraparound and the instruments and methods of the study at the time when data collection had just started. The second report (Ogles, Hatfield, Carlson, Fields, Dowell, & Melendez, 2002) summarized findings related to the initial data collection in the study and substantiated the fact that the matched random assignment procedure successfully produced two equivalent groups. This third, and final report, describes the findings of the completed study.

Methodology

An experimental design with repeated measures was used to compare the outcomes of clients assigned to wraparound services plus feedback versus wraparound services without feedback.

Participants. A total of 72 families participated in initial wraparound team meetings and agreed to participate in the study. The children in the sample consisted of 38 males and 34 females who were an average age of 13.31 (SD = 3.04) years old. Thirty-seven youth were assigned to the feedback condition and 35 to the non-feedback condition. Initial analyses indicated that the two feedback groups did not differ at the time of the first team meeting and that participants, on average, had significant levels of problems as indicated by scores on the Ohio Scales Problem Severity and Functioning, Vanderbilt Functioning Index, and Target Complaints (Ogles et al., 2002). By the three-month interval, 12 of the participants had dropped out leaving 60 participants for the main analyses. Drop-out rates were not significantly different between the two feedback groups.

Instruments. To assess youth outcomes, several measures were administered: The Ohio Scales (Ogles, Melendez, Lunnen, & Davis, 2001), Target Complaints, Vanderbilt Functioning Index (Bickman, Lambert, Karver, & Andrade, 1998) and achievement of individually defined goals (Goal Attainment Scaling). Family outcomes were assessed using the Family Adaptability and Cohesion Scale (FACES III; Olson, Portner, and Lavee, 1985). Members of the team were queried regarding their satisfaction with the outcomes of intervention and the degree to which they felt informed about the case.

Procedures. All parents and children scheduled for a family team meeting associated with a given agency in two counties were asked by a Parent Research Assistant (PRA) if they would be willing to participate in the study just prior to their initial team meeting. Families that agreed to participate in the study met briefly with a PRA prior to the Family Team Meeting to complete consent forms. The PRA then attended the family team meeting and rated the meeting using the wraparound observation form. The PRA was not a participant in the meeting, but rather an independent observer. As a result, all members of the team provided consent to participate in the study. Following the meeting, the PRA interviewed the child and parent using the parent interview form. At this time, the families completed the Parent and Youth rated Ohio Scales, the Target Complaints, and the Faces-III, along with identifying three primary goals. For youth under age 12, only the parent completed the measures. All families were then contacted two weeks, four weeks, eight weeks, 12 weeks, and nine months following the initial team meeting to complete the same forms. The families also provided basic information regarding the amount and type of services received along with amount of contact with team members since the most recent assessment date. Both parents and children who completed the forms were compensated for their participation.
The first two youth were deliberately assigned to the non-feedback group in order to work out the details of the assessment process. From that point on, youth were assigned to the feedback condition based on a matched randomization procedure where an equal number of feedback and non-feedback slips of paper were placed in a hat and selected one at a time to make the group assignments for families that enrolled in the study. A total of 37 were assigned to feedback with 35 in the non-feedback condition with two slips of paper remaining in the hat. For youth assigned to the feedback condition, a feedback report was faxed to the PRA after each of four data collection points (2 week, 4 week, 8 week, and 12 week). The PRA distributed the report to the team including the parent(s). Participants in the non-feedback group received no information back concerning the completed measures.

Table 1. Measures of Problem Severity, Functioning, Target Complaints, and Family Functioning, over Time for Clinical Status Group

<table>
<thead>
<tr>
<th>Measure</th>
<th>Feedback Group</th>
<th>Time 1 Mean (SD)</th>
<th>3-month Mean (SD)</th>
<th>9-month Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS-Problem Severity</td>
<td>Feedback</td>
<td>31.67 (12.12)</td>
<td>25.21 (16.42)</td>
<td>31.85 (18.79)</td>
</tr>
<tr>
<td></td>
<td>No Feedback</td>
<td>32.43 (15.65)</td>
<td>22.90 (16.12)</td>
<td>20.85 (15.46)</td>
</tr>
<tr>
<td>OS-Functioning</td>
<td>Feedback</td>
<td>43.35 (13.27)</td>
<td>47.95 (11.79)</td>
<td>49.23 (18.15)</td>
</tr>
<tr>
<td></td>
<td>No Feedback</td>
<td>41.82 (13.39)</td>
<td>57.55 (12.71)</td>
<td>44.33 (12.03)</td>
</tr>
<tr>
<td>Average Target Complaint</td>
<td>Feedback</td>
<td>3.41 (0.59)</td>
<td>2.73 (1.13)</td>
<td>2.64 (1.13)</td>
</tr>
<tr>
<td></td>
<td>No Feedback</td>
<td>3.49 (0.57)</td>
<td>2.84 (0.71)</td>
<td>2.03 (0.6)</td>
</tr>
<tr>
<td>Faces-III Total</td>
<td>Feedback</td>
<td>57.2 (10.11)</td>
<td>56.1 (8.79)</td>
<td>52.15 (10.68)</td>
</tr>
<tr>
<td></td>
<td>No Feedback</td>
<td>57.5 (12.82)</td>
<td>56.83 (16.31)</td>
<td>54.5 (15.77)</td>
</tr>
</tbody>
</table>

Results

While the average child participant evidenced problem behavior in the clinical range on the Problem Severity Scale, a subset of participants (n =15 of the 60 completers) had initial Problem Severity
scores that were quite low (below 13). Because these participants had floor effects preventing them from making large decreases in Problem Severity, we divided the sample into two groups for further analyses (clinical level of problems at intake versus non-clinical level of problems at intake). Table 1 presents the means and standard deviations of measures for these two groups.

To evaluate the effectiveness of wraparound services and feedback on symptom change over time, a 2 (intake, post-treatment) X 2 (feedback, no feedback) X 2 (initial significant problems, initial non-significant problems) ANOVA analysis was conducted using the Ohio Scales Problem Severity totals, Ohio Scales Functioning totals, the average target complaints, and the Family Adaptability and Cohesion total scores. These analyses were conducted to evaluate change at three months (when feedback ended) and nine months following intake (a six-month follow-up after feedback ended).

Change at three months. When evaluating change using the parent rated Ohio Scales Problem Severity Scale, a significant interaction was obtained between initial clinical status and symptom change, $F(1,56) = 13.32, p = .001$). Follow-up analyses indicate that children who evidenced clinical levels of problems at intake showed significant reductions in symptom severity, $t(45) = 3.16, p < .01$, while children who evidenced problems in the normal range at intake showed a significant increase in symptom severity, $t(15) = -2.55, p = .05$. No other main effects or interactions among time, feedback, or initial severity groupings were significant.

When evaluating change as reported on the Ohio Scales Functioning Scale, a significant three-way interaction was identified (feedback X initial clinical status X change in functioning), $F(1,37) = 19.21, p = .01$. Follow-up analyses indicated that children who evidenced clinical levels of problems at intake within the both the feedback and no-feedback groups showed significant gains in functioning, $t(30) = -4.35, p = .001$. However, children who did not evidence clinical levels of problems at intake did not improve, $t(9) = 1.61, p = .14$. When evaluating change in target complaints, wraparound services were found to produce significant decreases in reported levels of target complaints over time, $F(1,47) = 18.95, p < .001$). No other significant interactions or main effects were obtained among initial clinical status, feedback, and time. Finally, when evaluating change in family functioning, wraparound services were found to produce no significant increases in reported levels of family functioning at three months.

Parental reports on the Goal Attainment Scale indicate the degree to which services produced anticipated change. Parental ratings were coded into two levels--less than anticipated change and anticipated/greater than anticipated change. Feedback was found to be significantly associated with parental perceptions of change at three months ($\chi^2(42) = 5.87, p = .015$). Specifically, a greater proportion (18/26 versus 5/16) of those parents who were in the feedback group felt that treatment produced expected or greater than expected levels of change.

Nine months. When evaluating change using the Ohio Scales Problem Severity totals, a significant two-way interaction (time X clinical status) was observed, $F(1,32) = 4.36, p < .05$). Follow-up analyses were not significant (probably as a result of low power due to decreased numbers of participants), but mimicked findings for the three-month data. Youth who evidenced clinical levels of problems at intake showed reductions in symptom severity, while children who evidenced problems in the normal range at intake showed increases in symptom severity. No other main effects or interactions among time, feedback, or initial severity groupings were significant.

When evaluating change using the Ohio Scales Functioning totals, none of the interactions or main effects were significant. This indicates that children showing initial improvement in functioning at three months did not maintain those improvements. This must be tempered by the relatively large number of dropouts. When evaluating change in target complaints at nine months, wraparound services produced significant decreases in reported levels of target complaints over time, $F(1,30) = 29.66, p < .001$).
other main effects or interactions were significant. When evaluating change in family functioning, a significant interaction between time and feedback was observed, $F(1,28) = 4.34$, $p < .05)$. Follow-up analyses indicated that parental perceptions of family functioning decreased in the six months following participation in the feedback group, $t(16) = .60$, $p < .05$. In contrast, parental perceptions of family functioning did not change for families that were in the non-feedback group. Importantly, levels of family functioning at nine-months for both feedback and non-feedback groups were not significantly different, means = 53 and 51 for the non-feedback and feedback groups respectively. Finally, feedback was not significantly related to parental perceptions of goal attainment at nine months. The majority of parents, however, did view the treatment as having achieved or exceeded expectations for goals identified at the initial meeting (20 of 35).

**Wraparound adherence.** To evaluate the impact of wraparound adherence on treatment gains, wraparound adherence was correlated with each measure of change--total Problem Severity, Functioning, target complaints, family functioning and goal attainment for both three and nine months. Given that a variable set of items on the Wraparound Adherence Form were inapplicable to individual dyads, the percentage of applicable items endorsed was used. There were no significant correlations between wraparound adherence and any of the outcomes measures collected. Therefore, it would seem to indicate that the degree of adherence to wraparound principles is unrelated to treatment outcomes. However, these findings may be limited by the significantly restricted range of wraparound adherence ratings. Indeed, the parent research assistant’s (PRA) ratings averaged 96 percent ($SD = .04$). This indicates a very high degree of consistency with the relevant principles listed on the Wrap Around Observation Form and provides little variability that might be correlated with measures of change.

Table 2. Parent and Team Member ratings of Information, Outcome, and Participation for Feedback and Non-Feedback Groups

<table>
<thead>
<tr>
<th>Parents</th>
<th>Informed</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Feedback</td>
<td>Non-feedback</td>
</tr>
<tr>
<td>$N$</td>
<td>36</td>
<td>31</td>
</tr>
<tr>
<td>Mean</td>
<td>4.28</td>
<td>4.27</td>
</tr>
<tr>
<td>$SD$</td>
<td>0.92</td>
<td>0.86</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Team Members (other than parents)</th>
<th>Informed</th>
<th>Outcome</th>
<th>Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Feedback</td>
<td>Non-feedback</td>
<td>Feedback</td>
</tr>
<tr>
<td>$N$</td>
<td>41</td>
<td>27</td>
<td>40</td>
</tr>
<tr>
<td>Mean</td>
<td>4.16</td>
<td>4.31</td>
<td>3.10</td>
</tr>
<tr>
<td>$SD$</td>
<td>0.93</td>
<td>0.65</td>
<td>0.91</td>
</tr>
</tbody>
</table>

* $p < .05$

Parent and Team Member Perceptions. Parents rated five items on a 1 (not at all) to 5 (very much) scale regarding their perceptions of outcomes (2 items) and the team’s awareness of the child’s
progress (3 items). Parents rated these items at one month, two months, and three months following the initial team meeting. When averaging across all times, parents in the feedback condition felt their children made more progress than parents in the non-feedback group. Ratings of team involvement, however, were not significantly different (see Table 2).

Team members rated 10 items on a 1 (not at all) to 5 (very much) scale regarding the degree to which they felt informed about the case (4 items), their perceptions of outcomes (4 items), and the degree to which they participated in the case (2 items). As can be seen in Table 2, team members felt well-informed and viewed their participation as significant. In addition, the average outcome rating was at the midpoint. Importantly, there were no significant differences between the feedback groups.

**Discussion**

While wraparound services are becoming more popular as an individualized and coordinated alternative to categorical and separated services, few studies have established the benefits of these services. Similarly, no studies have examined the relationship between wraparound adherence and outcomes or feedback and outcomes. We set out to investigate the relationships among these variables--adherence, feedback, and outcomes--within the wraparound approach. Further discussion will be focused on our four original hypotheses.

Youth receiving wraparound services would have decreased problems and improved functioning. Wraparound services delivered to youth who had clinical levels of problems at the initial team meeting did produce positive changes in Problem Severity, Functioning, target complaints, and goal attainment over a three month time period. Analyses of nine-month data also indicated that changes were evident in Problem Severity, target complaints, and goal attainment. Changes in parent-rated youth functioning were not maintained at nine months. Parental perceptions of family functioning did not change over the initial three months of services, but for those who continued in the study, parental perceptions of family functioning decreased significantly for youth in the feedback group.

Interestingly, there was a subsample of youth participants for which parents made initial ratings indicating very low levels of problems. Post-study conversations with the Parent Research Assistants suggested that some of the youth with very low ratings were children who had been referred by the local child welfare agency as a part of a reunification plan. In these circumstances the wraparound team met at the end of the youth’s out-of-home placement in order to coordinate services as the child returned home. As a result, parent ratings of the children at that point in time tended to be much lower. And, as evidenced in the analyses, these children also were rated as having increased problems and poorer functioning as the study continued. It should be noted that the problems increased on average only slightly and into the mild range.

Family Team meetings which had greater adherence to wraparound principles would result in better outcomes. Importantly, Parent Research Assistant ratings of the wraparound teams indicated that the teams were adhering to almost all of the guiding principles of the wraparound process. Unfortunately, this high degree of perceived adherence left little opportunity to identify correlates of adherence with various outcome measures. As outcomes varied significantly within the groups, three potential explanations for our findings seem most relevant. First, wraparound services in this study were conducted in a consistent fashion with the guiding principles, but consistency does not guarantee the outcomes (e.g., adherence is unrelated to outcomes). Second, problems with the measurement of adherence (e.g., Parent Research Assistants were overly generous in their rating of team meetings; the Wraparound Observation Form is not sufficiently sensitive to the operations of wraparound team meetings, etc.) distorted the relationship between adherence and outcomes. Third, adherence is related to outcomes, but a more heterogeneous set of team meetings with varying levels of adherence will be needed to establish the
Teams that received ongoing feedback about the progress of the youth would be better informed regarding the case. Contrary to our hypothesis that parents and family team members who received feedback would feel better informed regarding the case, parents and team members in both the feedback and non-feedback teams felt very well informed. Similarly, team members in both conditions had similar views of the outcomes of the cases and their own participation. This may be an indication that outcomes feedback from a standardized measure did not noticeably add to the information about the case that is already shared among family team members in the wraparound approach.

Family teams that received feedback regarding child progress would have youth who improved more than family teams that did not receive feedback. We found very little evidence that feedback about outcomes progress delivered to the team at two weeks, four weeks, eight weeks, and 12 weeks provided any additional benefit to wraparound services. Parents in the feedback group were more likely to indicate that their child had met or exceeded initial goals when compared to parents of children in the non-feedback group. In addition, parent retrospective ratings of outcomes indicated a slight advantage for participants in the feedback group over parents in the non-feedback group. However, no other differences in measures of Problem Severity, Functioning, target complaints, or family functioning, were observed between feedback and non-feedback groups. Perhaps the coordinated nature of wraparound services with planned team meetings provides sufficient feedback so that a formal mechanism for providing standardized outcome is unnecessary. Alternatively, the feedback intervention may not have been sufficiently powerful. Perhaps, four episodes of feedback over a 10-week period may not be frequent enough to provide ongoing monitoring for tracking progress.

Conclusions. Wraparound services will continue to be used as a method of coordinating intense services for youth involved with multiple systems. This study provides additional evidence that these services can be beneficial for the youth. Whether team adherence to general guiding principles of wraparound services produces any additional benefit for the child must remain an open question. Our study found a high degree of perceived adherence, but outcomes varied significantly and independently of adherence. Formalized feedback about progress using standardized outcomes measures did not substantially improve the wraparound services delivered in this study. Only parent perceptions of goal attainment and retrospective outcomes differed between feedback and non-feedback groups. Wraparound services may rely on such high levels of cooperation and communication that standardized feedback does not add a significant benefit. Continued efforts to explore the nuances of wraparound services will add empirical evidence that is necessary to back the claims associated with wraparound theory and practice.

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ADHD CHILDREN’S PERCEPTIONS OF SELF AND OTHER

Ohio University
Department of Psychology

Julie S. Owens, PhD                        Nicole M. Evangelista

Approximately three to five percent of children suffer from attention-deficit/hyperactivity disorder (ADHD; American Psychiatric Association, 2000), a disorder characterized by a persistent pattern of inattentive and/or hyperactive/impulsive behaviors that are developmentally inappropriate. ADHD is a chronic disorder, as two-thirds of ADHD children continue to struggle with inattention and/or hyperactivity/impulsivity into adolescence (Pelham, 2002). Approximately 40-60 percent of affected children later demonstrate conduct disorder, substance addiction or juvenile delinquent behavior (Barkley, 1990; Gittelman, Mannuzza, Shenker, & Bonagura, 1985).

Clinical behavior therapy is one of the three evidence-based short-term treatments for ADHD (MTA Cooperative Group, 1999; Pelham & Waschbusch, 1999). Behavioral interventions rely heavily on contingency management techniques in which rewards or consequences are presented depending on the choices the child makes (e.g., to follow rules or break them). In order to learn to make appropriate choices about behavior, ADHD children likely need to be aware of the behavior that is in need of change. Indeed, it has been suggested that awareness of one’s own deficits serves a motivating function in behavioral treatment (Hoza & Pelham, 1995), whereas inaccurate estimations of self seem to interfere with treatment progress. That is, children who are aware of their deficits may be more willing to strive toward improvement than children who are not aware of their deficits.

Interestingly, research has suggested that ADHD children inflate their self-perceptions of competence in a variety of domains (e.g., Hoza, Pelham, Milich, Pillow, & McBride, 1993; Hoza, Waschbusch, Pelham, Molina, & Milich, 2000; Ohan & Johnston, 2002; Owens & Hoza, 2003). This concept is termed the “positive illusory bias” and is defined as the disparity between self-report of competence and actual competence (e.g., test scores, teacher report) such that self-reported competence is higher than actual competence. Recent work suggests that ADHD children tend to overestimate their competence most in the domain in which they are most impaired (Hoza, Pelham, Dobbs, Owens, & Pillow, 2002) and that ADHD children who demonstrate predominantly hyperactive/impulsive symptoms tend to overestimate their academic competence to a greater extent than ADHD children who demonstrate inattentive symptoms only. It is unclear, however, whether this positive illusory bias is restricted to self-evaluations or whether it applies to ADHD children’s perceptions in general (i.e., perceptions of self and others). If ADHD children’s positive illusory bias applies to perceptions of self only, this may suggest that there is a defensive or self-protective quality to the bias (Diener & Milich, 1997; Milich, 1994). If however, ADHD children’s overly optimistic perceptions apply to perceptions of both self and other, it may suggest that ADHD children lack awareness of the more subtle cues that may be reflective of impairments or deficits (Hoza et al., 2002).

To date, most research has focused on the relative accuracy of ADHD children’s self-perceptions and their perceptions of others in clearly depicted academic and social situations. Consequently, there is a gap in the literature regarding the accuracy of ADHD children’s perceptions of others in ambiguous academic and social situations. The purpose of this study is to better understand ADHD children’s perceptions of self and other in ambiguous situations. By examining ADHD children’s perceptions of ambiguous situations, we will better understand whether or not they can perceive, as well as non-impaired...
children, the subtle cues that depict relative success and failure situations, and whether or not the positive illusionary bias applies to perceptions of other, in addition to perceptions of self.

Thus, this study will extend the literature by 1) exploring ADHD children’s perceptions of others’ competence in ambiguous academic and social situations as compared to control children’s perceptions and 2) to replicate a recent study (Owens & Hoza, 2003) by demonstrating that the “positive illusionary bias” is stronger in ADHD children who demonstrate hyperactivity/impulsivity as compared to ADHD children who demonstrate inattention only.

Hypotheses

This study is exploratory, as no studies to date have examined ADHD children’s perceptions of self and others in ambiguous situations. Thus, specific directional hypotheses are not being made. If ADHD children’s positive illusionary bias applies to evaluations of self and other, the misperception may be better characterized by a lack of evaluation skills or knowledge about cues that indicate success and failure. In such a case, future research would examine ADHD children’s evaluation skill deficits. For example, modifications to behavioral interventions implemented by parents and teachers may include a component that teaches children evaluations skills to compensate for this deficit. Further, this may underscore the importance of providing concrete feedback to the child rather than more subtle forms of redirection (e.g., a disapproving look).

In contrast, if ADHD children’s positive illusionary bias is restricted to self-evaluations, the misperception may be characterized as a self-protective bias. If this were the case, future research would examine contributors to the need for self-protection. Clinicians may need to address the child’s need to self-protect through self-esteem building activities in addition to simply providing feedback about the relative appropriateness of behavior.

As a replication of previous work, it is expected that ADHD children who demonstrate predominantly hyperactive/impulsive behaviors will overestimate their competence as compared to teacher report and actual achievement significantly more than ADHD children who demonstrate inattention only and non-impaired control children.

Participants

Child participants \((n = 120)\) in third, fourth and fifth grades are being recruited through a local school district, a university-affiliated psychology and social work clinic, and a university-based medical clinic. Using the parent and teacher versions of Disruptive Behavior Disorders Rating Scale (DBD; Pelham, Gnagy, Greenslade, & Milich, 1992), the Impairment Rating Scale (IRS: Fabiano et al., 1999), and diagnostic criteria from The Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision (DSM-IV-TR; American Psychiatric Association, 2000), children are categorized into one of three groups: 1) children who demonstrate either hyperactivity/impulsivity only or both hyperactivity/impulsivity and inattention (ADHD-HICB), 2) children who demonstrate inattention only (ADHD-IA), or 3) non-impaired control children (CTL). Recruitment will continue until investigators have obtained approximately 40 children per group. In order to be classified in the control group, children must demonstrate three or fewer symptoms of hyperactivity, impulsivity and inattention, and all scores on the IRS must be below two.

To date, 45 children have completed the study protocol. Specifically, 19 children (10 girls, 9 boys) who meet criteria for the control group, six children who meet criteria for ADHD-IA (3 girls, 3 boys), and 10 children (0 girls, 10 boys) who meet criteria for ADHD-HICB have been tested. Preliminary results are not yet available.
Procedures

After obtaining parental consent, parents complete a demographic questionnaire, the Disruptive Behavior Disorders Rating Scale (DBD; Pelham et al., 1992), and the Impairment Rating Scale (IRS: Fabiano et al., 1999). Teachers of the child participants complete the DBD Rating Scale, the IRS, and the Teacher Rating Scale of Child’s Actual Behavior (Harter, 1985). The latter scale assesses teachers’ perceptions of children’s competencies in multiple domains and is used as a criterion against which to judge the accuracy of children’s self-perceptions. After obtaining child assent, child participants complete a 90-minute individual testing session with a trained research assistant. Children complete the Self-Perception Profile for Children (SPPC; Harter, 1985), the Wechsler Individual Achievement Test (2nd edition)-Abbreviated (WIAT-II-A), and a video task. The order of the three tasks is randomized to control for effects of fatigue and inattention.

To assess children’s perceptions of others’ competence, children watch 16 video clips of child actors engaged in academic (8 video clips) or social (8 video clips) situations. The order of presentation of the 16 video clips is randomized to control for inattention and fatigue effects. Two video clips (1 academic; 1 social) clearly depict an incompetent child experiencing success. Two video clips (1 academic; 1 social) clearly depict a competent child experiencing failure. These four clips serve as a manipulation check. It is expected that all children (ADHD and control) will rate these child actors as highly competent and highly incompetent, respectively. (Pilot data with a non-impaired sample provided adequate validity for the video clips.) The remaining 12 video clips depict ambiguous success (6 clips: 3 academic, 3 social) and failure (6 clips: 3 academic, 3 social) in which subtle cues must be perceived in order for the child actor’s competence to be determined. These video clips are intended to be more challenging for the child participants to identify success and failure and the competence of the child actor. Following each video clip, children complete a four-item questionnaire in which they rate, on a five-point rating scale, their perceptions of 1) the actor’s competency for the given task, 2) the actor’s effort, 3) the importance of task, and 4) their self-perception of competency (i.e., how well they think they would do on a similar task). Each video clip is approximately 20-30 seconds long. The length of the video clip was determined based on a previous study that investigated third graders’ judgments of peers’ social behaviors depicted in video clips (Horstman & Bornstein, 1985).

Overview of Main Statistical Analyses

Responses to each of the four items on the video questionnaire will be averaged across the three ambiguous success situations and three ambiguous failure situations within each domain (academic and social). These scores will serve as dependent variables in the main analyses. Independent variables will be group (IA versus HICB versus CTL) which is a between-subjects factor and domain (academic versus social) which is a within-subjects factor. To assess the effects of group and domain on children’s perceptions, two 2 (academic versus social) by 3 (group: IA versus HICB versus CTL) repeated measures MANOVAs will be conducted. More specifically, one MANOVA will be conducted on the responses to the four items (i.e., others’ competency, others’ effort, importance of task, and self-perception of competency) associated with success videos. A second MANOVA will be conducted on the responses to the four items associated with the failure videos.

Overview of Replication Statistical Analyses

Children’s domain-specific self-perceptions as reported on the SPCC, will be examined relative to teacher perceptions of domain-specific competence. Further, children’s self-perceptions of scholastic competence also will be examined relative to their actual achievement scores on the WIAT-II screener.
Teacher scores as criteria. Z-scores will be created for each domain score on the child SPCC and on the teacher version of the SPCC. A difference score will be calculated by subtracting the standardized teacher scores from standardized child scores. Higher difference scores indicate greater overestimation of competence on the part of the child. To examine differences among the groups (IA versus HICB versus CTL) with regard to overestimation of competence as compared to teacher ratings, a one-way MANOVA will be performed on the 5 domain discrepancy scores. It is expected that HICB children will overestimate their competence significantly more than IA and CTL, who will not differ from each other and will not overestimate their competence compared to teacher ratings.

Achievement scores as criteria. Similarly, Z-scores will be created for WIAT-II achievement scores. Standardized achievement scores will be subtracted from standardized self-perception scores of scholastic competence on the SPCC. To examine the differences among the groups (IA versus HICB versus CTL) with regard to overestimation of competence as compared to achievement scores, a one-way ANOVA will be performed on the discrepancy score. It is expected that HICB children will overestimate their competence significantly more than IA and CTL, who will not differ from each other and will not overestimate their competence compared to actual achievement scores. If there is sufficient power to examine gender, the above two analyses will be conducted using a 2 (gender) by 3 (group) MANOVA.

REFERENCES


A review of the last 30 years of research on quality of life (QoL) among those with severe mental illness (Holloway & Carson, 2002) shows that Lehm an’s (1983) model emphasizing subjective QoL has dominated. Subjective QoL is a key outcome measure for assessing the effectiveness of mental health services (Barry & Zissi, 1997) and can therefore usefully inform clinicians and policymakers. It is also a way to appreciate the daily experience of those who cope with mental illness.

Subjective QoL can be predicted by such internal factors as symptomatology and self-related attitudes. Cross-sectional studies have shown that depression negatively correlates with general QoL (Koivumaa-Honkanen et al., 1999; Lasalvia, Ruggeri, & Santolini, 2002) and that depressive symptoms have a greater effect on QoL than other symptoms (e.g., UK 700 Group, 1999). These effects are seen in people diagnosed with a range of disorders (Pinikahana, Happell, Hope, & Keks, 2002). More striking than the cross-sectional relationship between depressive symptoms and QoL is evidence from longitudinal studies across cultures that it may predict future levels of life satisfaction. Improved QoL was better predicted by reduced depressive symptoms than by other symptom changes in a study in Britain (van Os et al., 1999) and in homeless mentally ill individuals in the US (Lam & Rosenheck, 2000). A nine-month follow-up of German patients with schizophrenia showed that improved QoL correlated with reduced depression, but depression at baseline did not predict QoL (Priebe et al. 2000). In Israeli patients, depression severity at baseline was able to predict QoL 16 months later (Ritsner et al., 2003).

Self-related attitudes are linked to subjective QoL. Rosenfield (1992) noted that empowerment attitudes contribute to subjective QoL. Consumers who feel hopeless about the future tend to have poorer outcomes (Hoffmann, Kupper, & Kunz, 2000). Self-esteem is a good predictor of well-being and life satisfaction among people with mental illness (Bradshaw & Brekke, 1999; Davidson & Strauss, 1992; Ritsner et al., 2003). Recent cross-lagged panel research (Shahar & Davidson, 2003) has examined longitudinally the relationship between self-esteem and depression in people with severe mental illness. Their findings suggest that while depression reduces self-esteem, social interaction may buffer these negative effects.

Social support is a form of social interaction that correlates with subjective QoL (Baker, Jodrey, & Intalgiata, 1992; Caron, Tempier, Mercier, & Leoullfre, 1998; Yanos et al., 2001). Peer support may be particularly influential (Davidson, Chinman, Kloos, Weingarten, Stayner, & Tebes, 1999). In a 10-site study of Nordic psychiatric patients, having a close friend was the one external factor that was significantly associated with global subjective QoL (Hansson et al., 1999). In a qualitative study of consumers, Corring (2002) reports that peer support is key to recovery. What is missing is a longitudinal study of subjective QoL that includes symptomatology, self-related attitudes, and peer social support as potential predictors.

Investigations of subjective QoL that include consumers can be considered examples of community research. Community research seeks to understand phenomena that affect community members’ lives within their cultural context and includes them in the process (Dalton, Elias, & Wandersman, 2001). Key principles of community research are research questions stimulated by
community needs, a collaboration between the researcher and community research participants at all phases of the study, consultation that taps the expertise of community informants, and results that can be used for positive change (Dalton, Elias, & Wandersman, 2001). The current study was developed with these principles in mind. Consumers were involved at all stages--from proposing the study to state granting officials, through data collection and entry to the dissemination of results.

The purpose of the study was to predict subjective QoL among persons with severe mental illness using symptomatology, self-related attitudes, and social support variables. In addition, in keeping with community research principles, participants themselves were asked what factors were helpful in their recovery. This longitudinal study assessed participants every six months for 18 months.

Method

Participants in the study were recruited from the rolls of the Central Ohio Mental Health Center. Criteria for inclusion were: 1) being over the age of 18, 2) 508-eligibility (i.e., a prior history of psychiatric hospitalization or continuous outpatient treatment for two years or more), 3) residence in Delaware or Morrow Counties, and 4) no evidence of mental retardation, dementia, or current psychosis. Following screening, participants provided written informed consent and were interviewed by a trained research assistant. Participants were paid $10 for completing the baseline interview and $20 for each succeeding interview. Follow-up interviews were held within 30 days of the six-month anniversary of the initial interview. Only data from the 18-month follow-up are included in this report.

At baseline, 109 consumers (55 percent female) were interviewed. Their ages ranged from 18 to 73 years (mean = 41.1, SD = 11.7). Ninety percent were Caucasian, matching the demographics of Delaware and Morrow counties. The large majority (80.7 %) was unemployed. Over three-quarters (77.1 percent) of the participants had been hospitalized for a psychiatric condition that, on average, occurred when they were 27.4 years of age. Since the average current age for the participants was nearly 42, the majority had endured a long history of psychiatric problems. Of the original 109, 84 were reinterviewed at 18 months, a retention rate of 77 percent. The characteristics of those who were retained in the study did not differ statistically significantly from those who were lost.

Over the course of the study, the paid staff included a consumer who was the project’s coordinator and four consumer and four undergraduate research assistants. Two consumers entered all the data.

The battery of research instruments included a demographic questionnaire, the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988), the Ohio Mental Health Outcome Survey Adult Consumer Form A (Ohio Department of Mental Health, 2000), and two instruments developed by the researchers, a Behavioral Outcomes Checklist, and a consumer-generated Relationships and Activities that Facilitate Recovery Scale (RAFRS). The MSPPS is a 14-item questionnaire that measures the quality of support provided by friends, family, and “a special person.” The instrument has strong internal consistency in diverse populations (Cronbach’s alphas ranging from .84 to .92; Zimet, Powell, Farley, Werkman, & Berkoff, 1990). The Ohio Mental Health Outcome Survey assesses consumers’ subjective quality of life, level of psychiatric symptom distress, and recovery-related attitudes. The Quality of Life component is a 15-item Likert scale based on Lehman’s Quality of Life Inventory (1983) and yields a general score that we used as the outcome measure in this study. The 15-item Symptom Distress scale is composed of the Depression and Anxiety scales from the Brief Symptom Inventory (Derogatis & Melisaratos, 1983). Recovery attitudes were measured using the Making Decisions Empowerment Scale (Rogers, Chamberlin, Ellison & Crean, 1997), a consumer-designed, 28-item questionnaire with strong internal consistency (alpha = .86) that has five subscales: Self-esteem, Power, Righteous Anger, Optimism, and Community Activism.
The 19-item Behavioral Outcomes Checklist, developed by the author in consultation with consumers, includes a four-item negative change subscale (suicidal thoughts, unprotected sex, spending money impulsively, and time alone watching television) and a positive change subscale (social involvement, feeling at peace, feeling spiritually fulfilled, and feeling that progress is occurring in recovery). Participants indicate changes in these behaviors compared with the previous six months. Internal consistency for the subscales was modest (alphas of .29 and .48). Participants were also asked about their frequency of using mental health services and satisfaction with those services.

The Relationships and Activities that Facilitate Recovery Scale (RAFRS), lists 18 factors that research (Roth, Crane-Ross, Hannon, & Hogan, 1999) and advice from consumers suggest are influential in recovery. They range from the consumer’s relationship with CSP and best friend to activities involving taking medication and prayer. Each item is considered over the past six months and rated as “helped a lot,” “helped a little,” “didn’t help,” or “made things worse,” and “no contact.” Respondents then indicate which two items had been most influential in their recovery over the past six months. Because many consumers answered “no contact” for some items, internal reliability could not be calculated.

**Results**

Our first set of analyses used paired *t*-tests to assess whether consumers showed changes in subjective QoL, psychiatric symptoms, support, and other variables from baseline to 18 months later. Subjective QoL did not show a statistically significant improvement. The mean score at baseline was 38.1 (SD = 8.40); mean score at 18 months was 39.5 (SD = 8.12). However, 58.2 percent of participants’ QoL scores at 18 months were higher than they were at baseline.

There was a statistically significant reduction in psychiatric symptoms between baseline and 18 months. Mean symptom scores went from 24.3 (SD = 13.4) at baseline to 20.9 (SD = 13.0) at 18 months (*t* (83) = -2.46, *p* < .02). By separately examining anxiety and depression symptoms and it was clear that the overall reduction in symptoms was mostly due to reduced depression. While anxiety scores remained virtually unchanged, participants’ mean 18-month score for depressive symptoms of 8.5 (SD = 5.7) was significantly lower than their mean baseline depressive symptom score of 10.6 (SD = 6.1); (*t* (83) = -3.06, *p* < .003).

Overall social support scores at 18 months were slightly higher than at baseline but not statistically significantly so. There was a marginally significant improvement in perceived family support. At baseline, family support on the MSPPS averaged 20.5 compared to 22.0 at 18 months (*t* (80) = 1.80, *p* < .08). There was also an improvement in employment status over the 18 month period, *χ²* df (1, 83) = 5.86, *p* < .03. Fourteen percent went from being unemployed to having some level of work while 9.6 percent went from some level of work to unemployment during the same period. Only 8.4 percent were employed at both points in time.

Paired *t*-tests indicated that overall empowerment attitudes were significantly lower at 18 months than they were at baseline (*t* (84) = 4.98, *p* < .001). The subscales for self-esteem, power, and optimism each showed significant (*p* < .005) decrease in scores.

Bivariate correlations were computed between the 18-month QoL score and the 28 attitude items on the Empowerment Scale both at baseline and at 18 months. Because this resulted in 56 correlations, the *p* value was set at 0.001 to insure against false positives. Five items, all measured at 18 months, were strongly correlated with QoL at 18 months. Table 2 lists these items. As can be seen, QoL was positively correlated with feelings of confidence, hope, and self-esteem. Similarly, we correlated QoL at 18 months with individual items from the Multidimensional Scale of Perceived Social Support scale at baseline and...
18 months. Since this entailed 28 correlations, the \( p \) value was raised to .005. As seen in Table 1, support from friends was a powerful correlate of QoL, in some cases, even when measured at baseline.

Table 1. Pearson Correlations Between Consumer General Quality of Life Score at 18 Months and Items from the Empowerment Scale and the Multidimensional Scale of Perceived Social Support

<table>
<thead>
<tr>
<th>Empowerment Scale items (reported at 18 months)</th>
<th>( r )</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I am often able to overcome barriers.”</td>
<td>.58**</td>
</tr>
<tr>
<td>“I am generally optimistic about the future.”</td>
<td>.48**</td>
</tr>
<tr>
<td>“I am usually confident about the decisions that I make.”</td>
<td>.45**</td>
</tr>
<tr>
<td>“I can pretty much determine what will happen in my life.”</td>
<td>.44**</td>
</tr>
<tr>
<td>“I feel I have a number of good qualities.”</td>
<td>.43**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multidimensional Scale of Perceived Social Support (reported at 18 months)</th>
<th>( r )</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I have friends with whom I can share my joys and sorrows.”</td>
<td>.37*</td>
</tr>
<tr>
<td>“Overall, I am satisfied with the support I get from my friends.”</td>
<td>.36*</td>
</tr>
<tr>
<td>Multidimensional Scale of Perceived Social Support (reported at baseline)</td>
<td></td>
</tr>
<tr>
<td>“My friends really try to help me.”</td>
<td>.34*</td>
</tr>
<tr>
<td>“I can count on my friends when things go wrong.”</td>
<td>.33*</td>
</tr>
</tbody>
</table>

** \( p < .001 \); * \( p < .005 \)

Bivariate correlations were also computed between 18-month QoL score and the 18 items of the Relationships and Activities that Facilitate Recovery Scale (RAFRS). Two of the RAFRS items at 18 months, both involving relationship support, correlated with QoL scores: “My spouse or partner has been helpful in my recovery” (\( r = .40, p < .001 \)) and “My best friend has been helpful in my recovery” (\( r = .31, p < .005 \)).

Quality of Life scores were also correlated with measures of psychiatric symptoms--anxiety, depression, and overall symptoms both at baseline and at 18 months. As predicted, symptoms were negatively correlated with QoL scores. At 18 months, overall symptoms (\( r = -.48, p < .001 \)), anxiety symptoms (\( r = -.40, p < .001 \)), and depressive symptoms (\( r = -.52, p < .001 \)) were all strongly associated with QoL scores. Overall symptoms (\( r = -.22, p < .05 \)) at baseline was a statistically significantly predictor of QoL scores at 18 months. QoL was also correlated with satisfaction with mental health services (\( r = .27, p < .02 \)) but not with frequency of using mental health services (\( r = .12 \)).

Hierarchical regression analyses were performed to identify the predictors of consumer QoL scores at 18 months. We conceived of the regression in three steps: 1) controlling for QoL scores at baseline, 2) using all the predictors at 18 months, and 3) using all the predictors except for QoL at baseline. Because there were so many predictors at steps 2 and 3, we sought to simplify the regression equations by developing models that maximally predicted QoL scores at 18 months with a minimum number of variables. Only those variables that showed statistically significant contributions to the equation were kept in successive regressions.

As one would expect, QoL scores at baseline were very strongly correlated with QoL scores at 18 months (\( r = .57, p < .001 \)). Controlling for baseline QoL, we regressed concurrent variables (positive and negative behavior change, three social support measures, symptoms, the five empowerment subscales and the total empowerment score, and clinical utilization and satisfaction) on QoL scores at 18 months. The second step increased our prediction of QoL scores significantly: \( R \) increased to .78 with an adjusted \( R^2 \) of

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.53 ($F$ change = 4.039, $df(12,63)$, $p < .001$). Only symptoms and positive behavioral changes were found to statistically significantly add to the prediction ($t$ scores of –2.014 and 2.854, respectively). Therefore, we computed a new regression equation where the second step was comprised of symptoms and positive behavioral change. The model derived produced an $R$ of .69 with an adjusted $R^2$ of .46 ($F$ change = 11.21, $df(2, 75)$, $p < .001$). We then introduced all symptom, support, behavior change, and attitude variables at baseline in the third step of the equation. Only depressive symptoms proved to do so with statistical significance. The final regression equation, as seen in Table 2, shows that, controlling for QoL scores at baseline, we can predict QoL at 18 months on the basis of symptoms and positive behavior changes. The full equation accounts for an adjusted 51.6 percent of the variance.

Table 2. Hierarchical Regression Analysis for Variables Predicting Subjective Quality of Life at 18 Months ($N = 84$)

<table>
<thead>
<tr>
<th>Step</th>
<th>Adjusted $R^2$</th>
<th>$F$</th>
<th>df</th>
<th>Increase in $R^2$</th>
<th>$F$ change</th>
<th>df</th>
<th>$\beta^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1: Quality of Life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>at baseline</td>
<td>.315</td>
<td>36.35</td>
<td>1.76</td>
<td></td>
<td></td>
<td></td>
<td>.569 ***</td>
</tr>
<tr>
<td>Step 2: Variables at 18 months</td>
<td>.458</td>
<td>22.68</td>
<td>3.74</td>
<td>.155</td>
<td>11.04</td>
<td>2.74</td>
<td></td>
</tr>
<tr>
<td>Symptoms</td>
<td>-.157</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Behavior Change</td>
<td>.328 ***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3: Variables at baseline</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressive Symptoms</td>
<td>.516</td>
<td>20.28</td>
<td>4.73</td>
<td>.047</td>
<td>7.28 **</td>
<td>1.73</td>
<td>.282 **</td>
</tr>
</tbody>
</table>

* Standardized coefficients
* $p < .05$ ** $p < .01$ *** $p < .001$ **** $p < .0001$

After participants completed the RAFRS, they were asked to name which two relationships or activities in the past six months had most helped them with their recovery. At the 18-month phase of the project (as it was at 6- and 12-month phases), the most frequently mentioned factor was their relationship with their CSP. This received 14.9 percent of all the mentions. Receiving the second most mentions was “my best friend” followed by “staff members in the mental health system.” Surprisingly, medication was rarely mentioned. A complete list of RAFRS items and each item’s percentage of all mentions is given in Table 3.

Finally, data were analyzed to determine if there were gender differences in QoL, symptoms, support, attitudes, or other variables. To put it simply, there were none.

Together with the principal investigator, the research coordinator (a consumer) as well as undergraduate student and consumer research assistants presented our findings to the counties’ mental health board, the board and clinical staff of the mental health center, the staff of the local hotline, consumers, and members of the local NAMI chapter.
Table 3. Percentage of 168 Mentions of Top Two Items on the Relationships and Activities that Facilitate Recovery Scale Listed by Consumers as Helpful at 18 Months

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage of all mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>my community support person (case manager)</td>
<td>14.9</td>
</tr>
<tr>
<td>my best friend</td>
<td>14.3</td>
</tr>
<tr>
<td>staff members who work for the Mental Health Board</td>
<td>13.1</td>
</tr>
<tr>
<td>my spouse or partner</td>
<td>10.1</td>
</tr>
<tr>
<td>my parents</td>
<td>8.3</td>
</tr>
<tr>
<td>vigorous exercise</td>
<td>6.0</td>
</tr>
<tr>
<td>prayer and worship services</td>
<td>5.4</td>
</tr>
<tr>
<td>my children</td>
<td>5.4</td>
</tr>
<tr>
<td>attending drop-in center or other self-help activities</td>
<td>4.8</td>
</tr>
<tr>
<td>attending mental health center groups</td>
<td>4.2</td>
</tr>
<tr>
<td>my pet</td>
<td>3.0</td>
</tr>
<tr>
<td>talking with people who have problems like mine</td>
<td>2.4</td>
</tr>
<tr>
<td>taking medication</td>
<td>2.4</td>
</tr>
<tr>
<td>my siblings</td>
<td>2.4</td>
</tr>
<tr>
<td>my boss or work supervisor</td>
<td>2.4</td>
</tr>
<tr>
<td>going to work</td>
<td>1.2</td>
</tr>
<tr>
<td>talking with people who have a psychiatric history</td>
<td>1.2</td>
</tr>
<tr>
<td>attending training session on the Recovery Model</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Conclusions

Subjective QoL among people with severe mental illness varies over time but in ways that are predictable. On a cross-sectional basis, fewer depressive symptoms, more positive self-related attitudes, and perceived improvements in recovery-related behaviors correlate positively with overall life satisfaction. These results largely support earlier cross-sectional studies’ findings (e.g., UK 700 Group, 1999). Social support, especially from friends, also correlates with QoL. Further, when asked which relationships and activities best foster their recovery, consumers indicate the quality of relationships they have with friends and clinical support personnel. It is noteworthy that while utilization of mental health services did not correlate with overall QoL, satisfaction with those services did. This implies that the quality of interactions with professionals is more crucial than their mere frequency.

The current study is unique by including internal and relational variables in a longitudinal study of consumer QoL. In this regard, its most interesting finding is that QoL can be predicted, while controlling for baseline QoL, on the basis of concurrent symptoms, perceived behavioral improvement, and baseline depressive symptoms. In fact, these variables account for more than one-half the variance in QoL scores at 18 months. This strengthens the argument voiced by British researchers that “treatment of depressive symptoms should be given high priority by clinicians seeking to improve the quality of life of severely mentally ill patients” (UK 700 Group, 1999, p. 432).

Depressive symptoms, social support, and quality of life interact in complex ways. Shahar and Davidson’s (2003) cross-lagged panel study indicates that depressive symptoms erode the self-esteem of people with serious mental illness, but that social functioning can buffer this effect. What is not clear is how proximal these relationships might be. On a daily basis, do supportive social interactions boost mood and, in turn, improve self-esteem? Or does being in a good mood precede social interactions? Future
research might use an Experience Sampling Method (Csikszentmihalyi & Larson, 1987) to look at daily changes in these variables (Barge-Schaapveld, Nicholson, Bekhof, & deVries, 1999) so as to illuminate the causal and reciprocal relationships among depression, support, self-esteem, and QoL.

The process by which this study was conducted adhered to the principles of community research. It was possible, although not effortless, to include mental health consumers in the design of instruments, the collection of data, and the dissemination of results that have direct meaning for them and those in the community who provide services. In fact, the involvement of consumers lent the work credibility in the mental health community which was vital to recruiting and retaining participants over the 18 months of the study.

**REFERENCES**


**Other Publications of the Research to Date**


**Paper Presentations of the Research to Date**

THE COST TO EMPLOYERS OF CASE MANAGER TURNOVER IN OHIO’S MENTAL HEALTH SYSTEM

Ohio Wesleyan University
Department of Economics

Robert J. Gitter, PhD

Staff turnover is a large and expensive problem for many employers and the mental health system is no exception. Nationally, mental health workers as a group had a 17 percent turnover rate, i.e., 17 percent of mental health workers left their place of employment during the course of a year (Pyle, 2002). The limited available evidence indicates that the problem is even more acute for case managers in particular. A study in Kings County, Washington (Seattle) found that case managers experienced approximately a 30 percent annual turnover (King County Mental Health Board, 2000). A similar result was found in New York with a rate of almost 30 percent among direct-care staff in community-based mental health agencies (New York State Council for Community Healthcare, 2000). Turnover can be a source of substantial cost to employers, especially when it is at this order of magnitude. Economists and human resource researchers have developed a body of literature that can be used to estimate the turnover cost to employers. This study calculates the extent and cost of turnover of case managers in Ohio’s mental health system through a detailed survey of employers.

A Model of Turnover Costs

The costs of turnover may be grouped into the categories of separation, replacement, training and transition costs. The first three are used by Cascio (1991) and are frequently cited in the literature. They form the basis for this study along with the additional area of transitional costs that impact the productivity of case managers in the mental health system. Using Cascio’s classification, separation costs include (1) the wage cost of the time involved in an exit interview; (2) the administrative wage cost of processing the employee’s termination from the payroll and fringe benefit programs and (3) separation pay. Replacement costs involve all of the expenses entailed in hiring a new employee. For example, for case managers these would include (1) advertising costs associated with the communication of job availability, (2) the time of current employees spent on interviews and selection and (3) administrative costs. Training costs cover (1) formal training expenses, (2) the lower initial productivity of the new hire and (3) the higher level of supervision for new employees during the probationary period. Although it will be impossible to quantify and express in dollar terms, clearly there are also problems with consumers being served by a succession of CSP workers in a short period of time. Conversations with an ODMH grant recipient, Richard Leavy, point to the possibility of clients not developing deep relationships with their CSP as the client perceives their CSP might soon be gone (see Levy, 2002). Beyond these costs discussed by Cascio, an additional category, transitional costs, was added to cover costs involved in the transfer of clients. A review of the literature did not find any studies of the cost of turnover of case managers in the mental health system.

The Survey and a Description of the Respondents

A survey was constructed to ask employers to provide responses that would enable the calculation of the extent of turnover and its cost. Organizations were asked to give responses on the various components of turnover, e.g., how much was spent on newspaper advertisements, how many hours were spent interviewing candidates and what were the wage rates of those conducting the interview, etc. The lower productivity due to transitional costs was estimated through questions on the amount of non-
revenue-producing time of outgoing case managers preparing transfer summaries on clients and related activities as well as the period of non-revenue-producing time the new hire spends building up a caseload. The Ohio Department of Mental Health provided a list of organizations that employed case managers. The survey was mailed out to 190 such organizations and non-respondents were sent a second survey. Between the two mailings, a total of 117 were returned, resulting in a response rate of 61.6 percent. Some of those responding did not employ case managers, and the sample with case managers included 97 organizations. A sample of non-respondents was called to determine the reasons for not replying. Some of the non-respondents stated they were too busy; some said that such surveys were sent to the national office where they were unlikely to reply; some were unable to answer the questions, and at some organizations the phone number given was never answered. As a result it was decided to not pursue the non-respondents any further.

Table 1 presents background characteristics of the organizations sampled. Of the 97 employers, 71 experienced the turnover of at least one case manager. The turnover rate was 29.8 percent, i.e., the number of case managers who left (613.5) divided by the number currently employed, 2,056, was 29.8 percent. The figure is almost identical to the 30 percent figure found in the King County study mentioned above. In short, Ohio employers can expect to lose almost one case manager in the course of a year for every three employed.

The respondents were almost exclusively found in the not-for-profit sector. There was a good representation of service types. Organizations that provided children’s services, adult services and a mixture of both each accounted for at least 20 percent of the respondents. The sample was evenly split into thirds by urban, rural and mixed service areas. It is not surprising that the employers experiencing turnover employed more case managers than those that didn’t, as there is a greater likelihood of some turnover with more employees. The mean billable hourly rate was a bit higher for the employers with turnover, $81 compared to $72 for the employers without turnover. The mean salary was $27,261 in organizations with turnover, about $800 less than that of the other organizations. The salary of the case managers who left was a bit lower at $26,009.

**Calculation of the Cost of Turnover**

Table 2 presents the frequency and amount of the various costs of turnover. Of the 71 organizations that reported case manager turnover, only 67 answered the questions on turnover costs. The number of responses was further reduced as not all of the respondents answered all of these questions. For example, a number of the organizations stated they could not estimate the amount of time a newly hired case manager spent shadowing a current employee. In some cases the person filling out the survey did not know the wage rate of all of the people conducting the employment interviews. The first column of data in Table 2 shows the average cost for employers who reported each type of costs. The numbers in parentheses show how many employers reported this type of cost out of the total number of employers that responded to that question. The last column calculates the average across all employers that responded to the questions, both those with that type of cost as well as those without.

Approximately two-thirds of the organizations with turnover purchased additional advertising for the position at an average cost of $467. All of the employers reported the use of current employees’ time in selecting and interviewing the new case manager at an average cost of $313. The additional cost of adding the new employee to the payroll was under $50. Agencies that lost a case manager incurred, on average, $666 of replacement costs.

Transitional cost, which focused on lost productivity, was the largest category of turnover costs. The non-reimbursable time that each departing case manager spent transferring clients cost employers $347. The non-revenue-producing time of the new case manager building a client load cost employers an
average of $1,338 per turnover. Both of these costs were reported by all of the respondents who answered
the question. The total amount of transitional costs was $1,685.

Training costs were the second largest category at $1,424. Only 33 of 57 organizations
responding to the question on formal training costs reported such costs, but the amount was large: $868.
The amount of money paid to new hires to shadow current employees was reported by every employer
but one answering the question and amounted to $582. Finally, the lost time of trainers cost employers
$399.

Separation costs were relatively small at only $61 for time spent on exit interviews and
processing the outgoing case manager from the payroll and insurance. Some costs were reported by less
than ten percent of the respondents and were not used in the calculations. These included severance pay,
overtime pay to deal with the caseload of departing case managers and the employment of temporary
workers for whom no reimbursement was allowed. The final result is a total cost to employers of $3,836
per case manager turnover.

Future Research

The analysis presented here is weighted so that every employer carries equal weight regardless of
the level of turnover. The analysis will be repeated, with the average costs weighted by the number of
case managers that turned over for the employer. Further, an examination will be conducted to see if the
degree of turnover and the related cost varies by service type (children, adult or both), service area
mostly urban, mostly rural or a mix) and the number of employees.

Summary and Conclusion

This study has carried out a survey of employers of case managers within the Ohio mental health
system. The results indicate that the degree of turnover is high and at a level very similar to a study in
King County, Washington. An employer with ten case managers could expect to lose three during the
course of a year. The costs associated with turnover amount to $3,836 per turnover, a substantial amount
for any employer to absorb. The largest single category of turnover is transitional costs, reflecting lost
productivity, and is on the order of almost $1,700.

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Table 1. Background Characteristics of Organizations

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Organizations with CSP Turnover</th>
<th>Organizations with no CSP Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Organizations</td>
<td>71</td>
<td>26</td>
</tr>
<tr>
<td>Type of Organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Profit</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Not for Profit (Private)</td>
<td>68</td>
<td>22</td>
</tr>
<tr>
<td>Public</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Service Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children Services</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Adult Services</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>Both</td>
<td>32</td>
<td>18</td>
</tr>
<tr>
<td>Service Area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mostly Urban</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>Mostly Rural</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>Mix of Urban and Rural</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>Mean Number of Direct Service Employees</td>
<td>73.8</td>
<td>41.6</td>
</tr>
<tr>
<td>Number of CSP Workers, Mean (Total)</td>
<td>26.3 (1868)</td>
<td>7.2 (188)</td>
</tr>
<tr>
<td>Mean Reimbursable (Billable) Rate for CSP Workers&lt;sup&gt;a&lt;/sup&gt;</td>
<td>$81.25</td>
<td>$71.74</td>
</tr>
<tr>
<td>Turnover of CSP Workers Mean (Total)</td>
<td>8.6 (613.5)</td>
<td>0.0 (0)</td>
</tr>
<tr>
<td>Mean Turnover of CSP Workers Previous Year</td>
<td>8.4</td>
<td>0.7</td>
</tr>
<tr>
<td>Mean Salary of CSP Workers&lt;sup&gt;a&lt;/sup&gt;</td>
<td>$27,261</td>
<td>$28,044</td>
</tr>
<tr>
<td>Mean Salary of Departing CSP Workers&lt;sup&gt;a&lt;/sup&gt;</td>
<td>$26,009</td>
<td></td>
</tr>
<tr>
<td>Mean Cost of Fringe Benefits of Departing CSP Workers (% Mean Salary)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>$6,944 (26.7%)</td>
<td></td>
</tr>
</tbody>
</table>

Note. Calculations based on only those organizations that responded to that specific question.
<sup>a</sup> Weighted by number of CSP Workers in the organization.
Table 2. Costs of Turnover

<table>
<thead>
<tr>
<th>Type of Cost</th>
<th>Average Cost for Employers with This Type of Cost(^a)</th>
<th>Average Cost for All Employers(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement Costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advertising</td>
<td>$467 (43 of 66)</td>
<td>$304</td>
</tr>
<tr>
<td>Selection (Time of Personnel</td>
<td>$313 (59 of 59)</td>
<td>$313</td>
</tr>
<tr>
<td>Processing (Adding to Payroll, Insurance, etc.)</td>
<td>$49 (64 of 64)</td>
<td>$49</td>
</tr>
<tr>
<td>Total Replacement Costs</td>
<td></td>
<td>$666</td>
</tr>
<tr>
<td>Transitional Costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Spent in Client Transfer</td>
<td>$347 (63 of 63)</td>
<td>$347</td>
</tr>
<tr>
<td>Time Spent in Orientation</td>
<td>$1,338 (62 of 62)</td>
<td>$1,338</td>
</tr>
<tr>
<td>Total Transitional Costs</td>
<td></td>
<td>$1,685</td>
</tr>
<tr>
<td>Training Costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal Training Costs</td>
<td>$868 (33 of 57)</td>
<td>$503</td>
</tr>
<tr>
<td>Shadowing Time</td>
<td>$582 (53 of 54)</td>
<td>$572</td>
</tr>
<tr>
<td>Lost Time of Trainer</td>
<td>$399 (28 of 32)(^c)</td>
<td>$349</td>
</tr>
<tr>
<td>Total Training Costs</td>
<td></td>
<td>$1,424</td>
</tr>
<tr>
<td>Separation Costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Spent on Exit Interviews</td>
<td>$28 (58 of 65)</td>
<td>$24</td>
</tr>
<tr>
<td>Processing (Removal From Payroll, Insurance, etc.)</td>
<td>$38 (63 of 64)</td>
<td>$37</td>
</tr>
<tr>
<td>Total Transitional Costs</td>
<td></td>
<td>$61</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$3,836</td>
</tr>
</tbody>
</table>

Note. Calculations based on only those organizations that responded to that specific question. Mean levels of costs were calculated with each organization given equal weight.

\(^a\) The average for each organization is based only on those employers who showed this type of cost.

\(^b\) The average here is across all organizations, i.e., those with this type of cost and those without.

\(^c\) Two employers were dropped from this calculation. One reported hourly training costs of $553 per hour and the other $185. These two values did not seem realistic and caused the average for employers with this type of expense to rise from $499 to $1,465. Hence, they were dropped from the calculation of this average.
Cognitive theories of depression and cognitive treatments for depression among individuals with mental retardation (MR) have been inadequately addressed in the literature and in practice. Prior to modifying or evaluating the cognitive treatments for depression in this population, a theoretical basis is needed to guide these modifications. The current study evaluated two cognitive theories of depression for their relevance and applicability to individuals with MR.

The present study tested both the cognitive triad model proposed by Beck (1967, 1970, 1976) and the learned hopelessness theory of depression (Abramson, Metalsky, & Alloy, 1989). The focus in Beck’s theory is that negative automatic thoughts, or a schemata, lead to a negative cognitive triad (i.e., views about one’s self, the world and the future), and then subsequently to depression. In comparison, the learned hopelessness theory emphasizes that it is the combination of stressful life events and specific attributions that leads to hopelessness and subsequently depression. In the latter theory, attributions which are stable, global and internal (versus unstable, specific and external) serve as a diathesis (or vulnerability) for depression.

Hypotheses

In evaluating Beck’s Cognitive Theory of Depression, the hypothesis tested was that the cognitive triad serves as a mediator between automatic thoughts and depressed mood. It was hypothesized that automatic thoughts would predict the cognitive triad, that automatic thoughts would predict depressed mood (as measured by self and informant reports), and that when assessed collectively, the cognitive triad would serve as a mediator between automatic thoughts and depressed mood.

Similar to Beck’s theory, the Hopelessness theory was evaluated to determine if hopelessness serves as a mediator between the interaction of the diathesis-stress and depressed mood. The hopelessness model of depression stipulates that the diathesis and stress interact to predict hopelessness and depression (Abramson, Alloy & Metalsky, 1988). The hopelessness theory of depression was tested using three interrelated analyses. First, the ability of the diathesis-stress interaction in predicting hopelessness was tested. Second, the ability of the diathesis-stress interaction in predicting self and informant reports of depressed mood was tested. And finally, where the criteria for mediating models were satisfied, the current study tested the mediating effect of hopelessness on the relationship between the diathesis-stress interaction and depressed mood. Hypotheses were tested using both frequency and impact ratings of life events and of life stress. Diathesis was measured with negative global and stable attributions.

Methodology

Participant Recruitment. Participants were recruited from nine agencies providing services for individuals with MR and developmental disabilities in Franklin County, Ohio who agreed to assist with the study. Eight agencies provided supported living services and one provided group home services. All agencies provided services to individuals with MR who were receiving assistance with adaptive life skills.
on a daily or weekly basis. Participating adults were living in houses and apartments with fewer than five roommates.

Agency representatives were asked to recommend potential participants for the study. Potential participants would possess adequate receptive vocabulary and did not have Axis I DSM-IV diagnoses of: Delerium, Dementia, Amnestic Disorders or other Cognitive Disorders; Schizophrenia or other Psychotic Disorders; Anxiety Disorders; Factitious Disorders, or Dissociative Disorders. The agency representative was also asked to approach these potential participants or their guardian for permission to be contacted by the investigators and to recommend a suitable informant who had known the individual for six months or longer.

Participants. One hundred twenty-two adults with MR were recommended by the agency representatives and participated in screening procedures. Criteria for completing the research interviews included a diagnosis of MR, adequate receptive vocabulary and adequate performance on four-point Likert-type questions. Adequate receptive vocabulary was defined by an age-equivalent of five years and no months on the Peabody Picture Vocabulary Test-III (Dunn, Dunn & Williams, 1997). Adequate performance on four-point Likert-type questions was defined by successfully answering eight of 10 practice questions.

Seventy-three adults with MR met screening criteria. They were labeled Group A. They completed the initial (Time 1) and follow-up (Time 2) interviews, and were rated by informants. The remaining 49 individuals did not meet screening criteria. Informant reports were obtained on these individuals and they were labeled Group B. See Table 1 for demographic characteristics of participants.

Informants. Informants were identified by their agency as individuals who knew the participant well and had known the participant for longer than four months. Informants completed questionnaire packages about the individual participating in the study. Informants of Group A reported that they knew the participant either very well (65.7%) or fairly well (34.3%). In Group B, informants reported that they knew the participant very well (74.5%) or fairly well (25.5%). See Table 2 for demographic characteristics of informants.

Instruments. The following self-report instruments were administered to participants in this order at Time 1. Those marked with an asterisk (*) were administered again at Time 2:

- Likert-type Screening
- Peabody Picture Vocabulary Test-III (PPVT-III; Dunn, Dunn & Williams, 1997)
- Piers-Harris Children’s Self-Concept Scale – adapted (Piers & Harris, 1969)*
- Automatic Thoughts Questionnaire – adapted (ATQ; Hollon & Kendall, 1980)
- Lifestress Inventory (LSI; Bramston & Fogarty, 1995)*
- Life Experiences Scale – adapted (LES; Sarason, Johnson & Siegel, 1978)*
- Self-Report Depression Questionnaire (SRDQ; Reynolds & Baker, 1988)*
- Cognitive Triad Inventory - Children – adapted (CTI-C; Kaslow et al., 1992)*
- Hopelessness Scale for Children – adapted (HSC; Kazdin, Rodgers & Colbus, 1986)*
- Children’s Attributional Styles Questionnaire (CASQ) – adapted (Seligman et al., 1984)
- Social Support Self-Report (SSSR) (Reiss & Benson, 1985)

The following instruments were completed by the informants at both Time 1 and at Time 2 in the following order:

- Anxiety, Depression and Mood Screen (ADAMS; Esbensen et al., 2003)
- Assessment of Dual Diagnosis (ADD; Matson & Bamburg, 1998)
- or Diagnostic Assessment for the Severely Handicapped (DASH-II; Matson et al., 1991)
- Life Experiences Scale – adapted; (LES; Sarason, Johnson & Siegel, 1978)
- Social Circle Questionnaire (SCQ; Lunsky & Benson, 1999)
- Social Performance Survey Schedule (SPSS; Matson, Helson, Bellack & Senatore, 1983)

Table 1. Demographics of Participants for Group A (N = 73) and Group B (N = 49)

<table>
<thead>
<tr>
<th></th>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>50.7% Male</td>
<td>63.3% Male</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>86.3% Caucasian</td>
<td>75.5% Caucasian</td>
</tr>
<tr>
<td></td>
<td>13.7% African American</td>
<td>24.5% African American</td>
</tr>
<tr>
<td>Age</td>
<td>Range 20-76 years</td>
<td>Range 21-79 years</td>
</tr>
<tr>
<td></td>
<td>M = 40.4 yrs., SD = 12.0 yrs.</td>
<td>M = 42.5 yrs., SD = 13.6 yrs.</td>
</tr>
<tr>
<td>Level of Mental Retardation</td>
<td>14.5% Borderline</td>
<td>2.0% Borderline</td>
</tr>
<tr>
<td></td>
<td>68.1% Mild MR</td>
<td>32.7% Mild MR</td>
</tr>
<tr>
<td></td>
<td>13.0% Moderate MR</td>
<td>44.9% Moderate MR</td>
</tr>
<tr>
<td></td>
<td>4.3% Unavailable</td>
<td>20.4% Severe MR</td>
</tr>
<tr>
<td>PPVT-III raw score</td>
<td>Range 71-191 (standard = 40-104)</td>
<td>Range 3-120 (standard = 40-62)</td>
</tr>
<tr>
<td></td>
<td>M = 116.7, SD = 29.1</td>
<td>M = 47.1, SD = 23.0</td>
</tr>
<tr>
<td>Residence</td>
<td>1.4% Own home without support</td>
<td>65.3% Own home with support</td>
</tr>
<tr>
<td></td>
<td>87.7% Own home with support</td>
<td>4.1% Home with parents</td>
</tr>
<tr>
<td></td>
<td>2.7% Home with parents</td>
<td>4.1% Staffed apartment</td>
</tr>
<tr>
<td></td>
<td>4.1% Small group home</td>
<td>10.2% Staffed apartment</td>
</tr>
<tr>
<td></td>
<td>4.1% Small group home</td>
<td>20.4% Small group home</td>
</tr>
<tr>
<td>Genetic Syndrome</td>
<td>12.3% Down Syndrome</td>
<td>24.5% Down Syndrome</td>
</tr>
<tr>
<td></td>
<td>1.4% Dubowitz Syndrome</td>
<td>2.0% Goldenhar Syndrome</td>
</tr>
<tr>
<td></td>
<td>1.4% Kleinfelters Syndrome</td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>4.1% Legally blind</td>
<td>8.2% Legally blind</td>
</tr>
<tr>
<td></td>
<td>4.1% Hearing impairment</td>
<td>4.1% Hearing impairment</td>
</tr>
<tr>
<td></td>
<td>17.8% Physical disability</td>
<td>30.6% Physical disability</td>
</tr>
<tr>
<td></td>
<td>6.8% Chronic Health Condition</td>
<td>8.2% Chronic Health Condition</td>
</tr>
<tr>
<td></td>
<td>6.8% Brain/neurological impmt</td>
<td>16.3% Brain/neurological impmt</td>
</tr>
<tr>
<td></td>
<td>15.1% Speech/language impmt</td>
<td>24.5% Speech/language impmt</td>
</tr>
<tr>
<td></td>
<td>8.2% Epilepsy</td>
<td>6.1% Epilepsy</td>
</tr>
<tr>
<td></td>
<td>26.0% Cerebral Palsy</td>
<td>14.3% Cerebral Palsy</td>
</tr>
<tr>
<td>DSM-IV diagnoses</td>
<td>16.4% Depression</td>
<td>16.3% Depression</td>
</tr>
<tr>
<td></td>
<td>1.4% Bipolar Disorder</td>
<td>10.2% Bipolar Disorder</td>
</tr>
<tr>
<td></td>
<td>8.2% Mood Disorder</td>
<td>2.0% Mood Disorder</td>
</tr>
<tr>
<td></td>
<td>4.1% Dysthymia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15.1% Other</td>
<td>10.2% Other</td>
</tr>
</tbody>
</table>
Table 2. Demographics of Informants in Group A ($N = 60$) and Group B ($N = 8$)

<table>
<thead>
<tr>
<th></th>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>84.7% Female</td>
<td>79.5% Female</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>58.7% Caucasian</td>
<td>59.5% Caucasian</td>
</tr>
<tr>
<td></td>
<td>37.9% African American</td>
<td>35.1% African American</td>
</tr>
<tr>
<td></td>
<td>3.4% African</td>
<td>5.4% Biracial</td>
</tr>
<tr>
<td>Age</td>
<td>Range 21-62 years, $M = 37.9$ yrs., $SD = 10.1$ yrs.</td>
<td>Range 24-70 years, $M = 41.3$ yrs., $SD = 12.2$ yrs.</td>
</tr>
<tr>
<td>Education</td>
<td>3.6% Some High School</td>
<td>2.6% Some High School</td>
</tr>
<tr>
<td></td>
<td>41.1% High School Degree</td>
<td>36.8% High School Degree</td>
</tr>
<tr>
<td></td>
<td>35.7% Some College</td>
<td>36.8% Some College</td>
</tr>
<tr>
<td></td>
<td>19.6% College Degree or higher</td>
<td>23.8% College Degree or higher</td>
</tr>
<tr>
<td>Years of Experience</td>
<td>5.5% Less than 1 year</td>
<td>10.8% 1-2 years</td>
</tr>
<tr>
<td></td>
<td>12.7% 1-2 years</td>
<td>16.2% 3-5 years</td>
</tr>
<tr>
<td></td>
<td>21.8% 3-5 years</td>
<td>27.1% 6-10 years</td>
</tr>
<tr>
<td></td>
<td>20% 6-10 years</td>
<td>45.9% 10 years or more</td>
</tr>
<tr>
<td></td>
<td>40% 10 years or more</td>
<td></td>
</tr>
<tr>
<td>Relationship to Participant</td>
<td>87.3% Direct Care Staff</td>
<td>83.3% Direct Care Staff</td>
</tr>
<tr>
<td></td>
<td>7.1% Residential Supervisor</td>
<td>8.3% Residential Supervisor</td>
</tr>
<tr>
<td></td>
<td>5.6% Other</td>
<td>8.3% Other</td>
</tr>
<tr>
<td>Length of Relationship</td>
<td>Range 4-291 months</td>
<td>Range 5-178 months</td>
</tr>
<tr>
<td></td>
<td>$M = 35.9$ mos., $SD = 52.3$ mos.</td>
<td>$M = 49.7$ mos., $SD = 48.9$ mos.</td>
</tr>
</tbody>
</table>

**Procedures**

Participants or their guardians were contacted regarding the study by the investigator or one of three trained undergraduate research assistants. If an individual had a guardian, consent was obtained from the guardian prior to scheduling an appointment for screening. All interviews were completed at the participant’s home.

When the interviewer arrived at the participant’s home, the consent form and the study were explained to the participant, and then to the potential informant if he or she was present. Consent for participation and consent to contact an informant were obtained. Consents were reviewed orally with the participant, after which they were required to answer four questions correctly, as presented in Lunsky and Benson (2001).

1. What do you do if you do not want to answer? (Say I don’t want to answer)
2. What do you do if you do not want to answer any more? (Say I am finished)
3. Who will I tell your answers to? (Nobody)
4. Will anyone be mad at you if you don’t want to do this or if you stop? (No)
After completing these questions, written consent was obtained. If the participant had a guardian, assent was required of the participant.

Upon obtaining consent, a 10-item author-derived Likert-type screening instrument was administered, followed by the PPVT-III. Participants who did not meet the screening requirements were debriefed and paid $5.00 for their time. Self-report measures were not administered (Group B). Participants who met screening criteria were invited to continue with the self-report measures (Group A). Upon completion of the interview, participants in Group A were paid $5.00 and reminded that they would be contacted and interviewed again in four months. Demographics were obtained from agency records for both Group A and Group B.

Informants were provided with consent forms and a package of instruments to complete while the participant was interviewed by the examiner. All participants (Group A and Group B) were rated by their respective informant on the informant-report measures at both Time 1 and Time 2. Informants were entered into 12 $50 lotteries upon completion of the informant-report measures.

For Group A, participants were contacted by the investigator four months after the initial interview to schedule the second interview. Of the 73 Group A participants, one individual was not re-interviewed as she chose to withdraw from the study for unknown reasons. Participants were debriefed and paid $10.00 for their participation in the Time 2 interview.

For both Group A and Group B, informants were contacted again by the investigator within four months of the screening for completion of the Time 2 questionnaire. Informants in Group A were asked to complete the measures at the same time as the participants. Upon completion of the questionnaire package, the informants were debriefed and entered into an additional twelve $50.00 lotteries.

**Findings and Discussions**

The results were analyzed using multiple hierarchal regression to assess the three conditions set by Baron and Kenny (1986) for testing mediator models. First, the independent variable must predict the mediator. Second, the independent variable must predict the dependent variable. And third, when the independent variable and the mediator are collectively entered into the regression equation, the mediator must predict the dependent variable. In the third step, the strength of the mediator and the independent variable in predicting the dependent variable are indicators of full, partial or no mediation. When predicting Time 2 dependent variables (for example depressed mood), the corresponding Time 1 measure was controlled for in the first step of the multiple hierarchal regression. The mediator model conditions were used to test both Beck’s Cognitive Triad theory of depression and the Hopelessness theory of depression.

**Testing Beck’s Cognitive Theory of Depression.** The results provided partial support for the cognitive triad theory of depression. The cognitive triad did not serve as a mediator between automatic thoughts, a measure of cognitive distortions, and depressed mood in individuals with MR (see Figure 1). This finding failed to support the theory. However, there were indications that automatic thoughts have a direct influence on depression and may also serve as a mediator between the cognitive triad and depressed mood.
Figure 1. Mediator model of cognitive triad for self-reports of depressed mood at Time 2 (N=72).

CTI-C Time 1

Criterion 1: 
$r = -.45*$

CTI-C Time 1

Criterion 2: 
$r = .32*$

ATQ Time 1

Criterion 3: 
$r = .16$

ATQ Time 1

SRDQ Time 2

SRDQ Time 2

Note. Change from Criterion 2 to Criterion 3 not indicative of mediation. CTI-C not mediating relationship between ATQ at Time 1 and SRDQ at Time 2. ATQ = Automatic Thoughts Questionnaire; CTI-C = Cognitive Triad Inventory for Children; SRDQ = Self-Report Depression Questionnaire.

* $p < .05$

These findings suggest several interpretations regarding the accuracy of Beck's cognitive triad theory of depression when applied to individuals with MR. First, the results could be interpreted as failing to support Beck's cognitive triad theory of depression among individuals with MR. The results may indicate that the cognitive triad does not serve as a mediator between cognitive distortions and concurrent or subsequent measures of depressed mood. Individuals with MR were able to self-report on measures of automatic thoughts, cognitive triad and depressed mood. The accuracy of their self report is evidenced by strong internal consistency on these measures and correlations with associated variables in the expected direction. It was not an inaccuracy on the part of the individuals with MR reporting on their thoughts and mood that led to a failure in supporting the theory with the current results. Thus, it could be concluded that the cognitive triad theory of depression is invalid for individuals with MR.

Second, it may be premature to reject the cognitive triad theory of depression for individuals with MR. The results indicated that the cognitive triad did not mediate the relationship between automatic thoughts and depressed mood. Automatic thoughts were used in the current study to measure the construct of cognitive distortions. Before the cognitive triad theory of depression is dismissed for use with individuals with MR, the theory needs to be evaluated using different measures of cognitive distortions. This is particularly true given that there is some indication that automatic thoughts may be a more proximal measure of self-reported depressed mood than the cognitive triad or cognitive distortions. Automatic thoughts were found to serve as a mediator between the cognitive triad and concurrent assessments of depressed mood (Esbensen & Benson, 2003) and in another study between cognitive distortions and depressed mood (Kwon & Oei, 2003). These findings indicate that automatic thoughts may be a different construct than cognitive distortions.

Testing the Hopelessness Model of Depression. Three of four measures of stress (frequency of life events, frequency and impact of life stress) served as direct predictors of hopelessness among individuals with lower receptive vocabulary. Individuals in the current study with lower receptive vocabulary had age equivalents on the PPVT-III from five to eight years. As individuals perceived greater stress, they also reported greater hopelessness. These results are consistent with prior findings among children in the general population (Nolen-Hoeksema, Girgus & Seligman, 1992). Among children ages eight and nine, stress was the primary predictor of depression. Although the outcome measure is different here, the finding that stress, and not the diathesis-stress interaction, is the primary predictor at younger developmental levels is similar. With the exception of one interaction, the results from individuals with...
lower receptive vocabulary in predicting subsequent hopelessness were supportive of the hopelessness theory of depression in that stressors predicted hopelessness consistent with the general child literature. As this is the first study to examine the predictive relationship of attributions and stress on hopelessness among individuals with MR, the findings deserve replication.

Among individuals with higher receptive vocabulary and age equivalents greater than eight years, no measure of stress served as a direct predictor of subsequent hopelessness. The interaction between frequency ratings of life events and the diathesis was significant in the prediction of hopelessness. However, this interaction was in the opposite direction predicted by the hopelessness theory of depression. The results indicate that individuals with a negative attributional style and a greater frequency of life events reported lower levels of hopelessness. These findings fail to support the hopelessness theory of depression among individuals with higher levels of receptive vocabulary.

The findings of Nolen-Hoeksema et al. (1992) with children from the general population could be applicable to individuals with MR and higher receptive vocabulary in predicting subsequent hopelessness. In their longitudinal study, life events were the only significant predictor of depression among individuals below fourth grade, or up to nine years of age. In fourth and fifth grades, or ages nine and 10, no clear predictor of depression was present. Mid-way through fifth grade, or ages 10 and 11, the diathesis began to predict self-reports of depression. And finally, mid-way through the sixth grade, or around 11 to 12 years of age, the diathesis-stress interaction began to predict depression. From fourth through the seventh grades, significant changes appear to occur in the development of attributions and how they interact with stress in the prediction of depression. Individuals in the current study with higher receptive vocabulary had receptive vocabulary age equivalents above eight years of age, with 60 percent having age equivalents within the range of fourth through seventh grade. It may be the case that in this study with adults with MR, the developmental changes in the prediction of hopelessness were not being adequately captured in this group. The individuals with higher receptive vocabulary may have been too heterogeneous to accurately evaluate the development of attributions in the prediction of depression.

Given the developmental changes that occur between ages nine through 12, more detailed analysis is needed in adults with MR at comparable developmental levels. This can be accomplished two ways. First, a better measure of cognitive development could be used, as receptive vocabulary alone does not accurately measure cognitive development. Second, a new theory has been proposed in the child literature that could be used among individuals with MR. The “weakest link” hypothesis has recently been put forth to explain the development of the interaction between attributions and stressors among children (Abela & Sarin, 2002). According to the hypothesis, attributional styles and inferential styles about the self and consequences develop at different rates. At any point in time, the most depressive attributional or inferential style serves as a vulnerability in the child’s development of hopelessness and depression. This hypothesis could be used to more accurately test the diathesis-stress interaction among adults with MR and higher receptive vocabulary.

Self-reports of depressed mood. The prediction of self-reports of depressed mood was analyzed separately for individuals with higher and lower receptive vocabulary and by gender. Among females with lower receptive vocabulary, stress served as a significant predictor of subsequent depressed mood in three out of four measures of stress. These findings are consistent with the results in the Nolen-Hoeksema et al. (1992) study. Among females with higher receptive vocabulary, subsequent self-report of depressed mood was predicted by neither the stressors, attributions nor the diathesis-stress interactions. Females with higher receptive vocabulary predominantly spanned mental age equivalents from eight to 11 years of age. This is the developmental age where Nolen-Hoeksema et al. (1992) found that depressed mood was not significantly predicted by stress, attributions or their interaction. The current results are consistent with their findings.
Among males with both higher and lower receptive vocabulary, subsequent self reports of depressed moods were not predicted by the stressors, attributions or the diathesis-stress interactions. This appears to imply that the hopelessness theory of depression is not appropriate for males in the current study. However, there are several alternative explanations for the findings. Males were significantly less depressed than females on self-report measures. This finding is consistent with the literature where females report greater depressed mood, associated cognitive variables, and more life events (Lunsky, 2003; Peterson, Sarigiani & Kennedy, 1991). As no significant gender differences were found on informant-report measures in this study, it may be that males in the current study were underreporting depressive symptoms. Other explanations for these findings are provided from the general population in that the amount and intensity of stress is predictive of subsequent depression among female adolescents, but not among male adolescents (Compas, 1987). Further analysis of the differences between males and females on measures associated with depression and its development are warranted among individuals with MR, particularly paying attention to mediating variables of gender differences.

Informant reports of depressed mood. The prediction of depressed mood was also examined using two informant report measures, the ADAMS and the ADD. Evaluations of the diathesis and stress predicting informant reports of depressed mood were likely exhibiting floor effects. Although statistically significant effects were found with the minimal variability on informant reports of depressed mood, the effects were clinically meaningless. The inconsistent findings and floor effects can be explained by the common difficulty of using observationally-based instruments to assess internalizing symptoms such as depressed mood (Finlay & Lyons, 2001).

A focus of the current study was to evaluate the mediating effect of hopelessness on the prediction of depressed mood from the diathesis-stress interaction. As the criteria to test the mediator were not satisfied, the author was not able to be test the model mathematically. The current study is unable to provide support for hopelessness as a mediator according to the hopelessness theory of depression. This finding is consistent with previous research among children that also did not satisfy criteria for testing hopelessness as a mediator (Abela, 2001).

**Implications & Conclusions**

The current study has implications for measurement, research and treatment. The study showed that individuals with MR are capable of reporting on some variables associated with depression. More refinement is needed with regard to measurement of hopelessness and causal attributions among this population. The study also found that more refinement is needed to evaluate the cognitive theories with regard to intellectual functioning and cognitive development.

The results of the current study are suggestive that self report, rather than informant report, should have greater emphasis when examining the development of internalizing symptoms among individuals with MR and adequate receptive vocabulary. This is based on current results where self reports had adequate psychometric reliability and validity as evidenced by inter-correlations among cognitive variables. In addition, the literature of self report among children supports the use of self-report instruments when measuring internalizing disorders (Herjanic & Reich, 1997).

Continuing to evaluate the cognitive theories of depression among individuals with MR has important treatment implications. Discovering the cognitions that are associated with the development of depression has implications for how cognitive-behavioral treatments will be designed and/or adapted from the interventions used with the general population. The development of cognitive-behavioral treatment models in combination with the standard pharmacotherapy may improve outcomes and reduce the length of treatment for individuals with MR as well.
The results of the current study indicate that cognitive variables can be measured among individuals with MR and adequate receptive vocabulary using appropriate self-report instruments. However, the results do not provide explicit support for either the cognitive triad theory or the hopelessness theory of depression in this population. The cognitive triad theory of depression requires refinements to the measurement of cognitive distortion before conclusions can be made regarding its utility. Regarding the hopelessness theory of depression, stress is the predominant predictor of subsequent depressed mood among individuals with lower receptive vocabulary. No clear predictor was obtained among individuals with higher receptive vocabulary. Continuing to evaluate and refine the cognitive theories of depression is necessary in order to develop evidence-based cognitive treatment for individuals with MR.

REFERENCES


**Other Publications of the Research to Date**


**Paper Presentations of the Research to Date**


Suicidal behavior represents a serious threat to our nation’s youth. All aspects of suicidal behavior, ranging from thoughts to completed suicides, have been associated with psychopathology, most particularly depression. However, psychopathology models alone are insufficient to predict suicidal behavior. To account for this, researchers have begun to elucidate risk factors for suicidal behavior as well as the inter-relations between known precipitants. With improved focus on risk factors for suicide has come an evolution of treatment and prevention programs designed to decrease the toll of suicide. The current study sought to describe known risk factors for suicidal behavior and the relationship of these risks to the range of suicidal behavior.

Unfortunately, failure to fully understand the risk factors associated with suicidal behavior in conjunction with an absence of theory guiding intervention and prevention programs has left the field of psychology with serious limitations in assessing and treating suicidal individuals. In addition, few systematic reviews of available treatment programs and the lack of empirical support for almost any intervention are areas of serious deficit in clinical psychology. A thorough review of prevention and treatment programs was conducted to highlight the difficulties in creating and implementing appropriate programs to target suicidal youth.

One promising area for intervention with suicidal youth relates to coping skills and treatment strategies. Problem solving is broken down into two components. The first relates to the cognitive-behavioral-affective reactions to problems (known as problem orientation), while the second comprises behavioral steps taken to solve or reduce problem situations (specific problem-solving skills). Empirical evaluations suggest problem orientation, the initial reaction to problems, differentiates suicidal youth from both normal controls and non-ideating psychiatric controls. The cognitive, behavioral and affective limitations invoked in the face of problem situations may ultimately inhibit appropriate behavior and encourage suicidal ideation. Problem-solving skills, however, fail to differentiate those at risk for suicide from their non-suicidal peers.

Fortunately, researchers focusing on problem-solving and coping skills have generated a great deal of research related to therapy. Problem-solving therapy (PST) programs have some empirical support and have been applied to a wide range of behavior problems (e.g., substance abuse, depression, generalized anxiety disorder; D’Zurilla & Nezu, 1999). Given the link between problem solving and the multitude of risk factors facing suicidal youth, the current study aimed to further assess the role of problem-solving deficits among suicidal ideators as well as assessing the benefits of a brief prevention intervention based on the PST model.

The general goals of the current intervention were to further elucidate the relationship between suicidal ideation, psychopathology and coping skills. In addition, the study assessed a short-term, secondary prevention program designed to decrease the intensity of suicidal ideation and associated psychopathology while bolstering problem solving abilities and coping skills. Although the ideal goal of any intervention with suicidal ideation is the prevention of suicidal behavior, the low base rate frequency
of suicidal behavior required that suicidal ideation be used as a proxy, in order to assess the efficacy of the program.

Based on the above hypothesis, the following changes were expected: Participants were expected to report decreased suicidal ideation, depression and hopelessness. Decreased substance use was also predicted to occur over the follow-up period. Finally, increased use of positive coping mechanisms, as evidenced by improvement on measures of problem-orientation, was expected, although no specific changes in specific problem-solving skills were predicted.

Participants

Participants were selected from the Psychology 100 Research Experience Program (REP) at The Ohio State University and local campus and community resources. Those selected from the subject pool ($N = 75$) were offered credit to partially complete requirements of the Psychology 100 program (8 course credits). Community participants ($N = 35$) were recruited from community mental health agencies and support organizations (e.g., Gay, Lesbian & Bisexual support groups; Depression & Bipolar Support Alliance) in and around Columbus, Ohio. Community participants were offered financial compensation for their participation ($20 for the initial visit; $10 for each follow-up packet returned). The Psychology 100 REP subject pool was utilized because it has been shown to be demographically similar to the student body at The Ohio State University.

Suicidal ideators were selected for participation based on a screening with the Beck Suicide Scale (BSS; psychometric information below). Individuals were selected based on endorsing scores of six or greater, which corresponds to mild levels of suicidal ideation, consistent with existing literature in this area. Those expressing active suicidal ideation (e.g., thinking about suicide in the previous two weeks) and who did not have an active plan or who were judged not to represent an immediate threat of danger to themselves or others were recruited to participate via telephone and e-mail. Ninety percent of those contacted agreed to participate in the study.

The participant pool included 60 females and 50 males ($N = 110$). The age range of participants was 18 to 24 ($M = 19.02, SD = 1.21$). The participants’ year in school ranged from freshman to senior, with the average student in their first year of college (66.4%). Ethnic breakdown of the sample was as follows: one percent were American Indian or Alaskan native, two percent Hispanic, 14 percent identified as Asian/Pacific Islander, 75 percent Caucasian, four percent African-American or Black and three percent identified themselves as “Other or Mixed Ancestry.” No data were available for the remainder of the sample. A majority of the participants were unmarried (98%).

In addition, a non-ideating control group was assessed in a single, baseline assessment. Non-ideators were defined as having a total score of zero on the BSS, corresponding to a lack of endorsement of any type of suicidal ideation and no history of suicide attempts. Non-ideators completed the same baseline protocol completed by those enrolled in the full problem-solving study, described below, but did not receive an intervention or complete follow-up materials. Non-ideating participants were also identified in the same manner as the ideating sample, and received the same compensation for participation.

The non-ideating group consisted of 33 females and 34 males ($N = 67$). Non-ideators ranged in age from 18-25 ($M = 19.76, SD = 3.59$). Participants’ year in school ranged from freshman to senior, with the average student in their first year of college. Basic demographic variables did not distinguish between the ideating and non-ideating sample, although the non-ideating group consisted of a larger number of Caucasians, relative to the ideating sample (75% in the ideating group versus 83% in the non-ideating group).
Methods

Participants were randomly selected into one of two groups: intervention or control based on a table of random numbers. A graphical presentation of treatment procedures can be seen in Table 1. At baseline, participants were informed of their rights and were presented with a written consent form and “no suicide” contract. These documents were reviewed orally and signed by both the study personnel and the participant. Those choosing to participate were administered a brief structured interview for diagnostic screening and further evaluation of suicide risk. Advanced-level graduate students with diagnostic assessment and SCID-specific training completed interviews. Following the interview, participants completed several self-report questionnaires.

Table 1. Measures Administered During Each Assessment Period

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Pre-test (T1)</th>
<th>Immediate post (T2)</th>
<th>1-week post (T3)</th>
<th>2-week post (T4)</th>
<th>1-month post (T5)</th>
<th>2-month post (T6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>♦ BSS</td>
<td>♦ BSS</td>
<td>♦ BSS</td>
<td>♦ BSS</td>
<td>♦ BSS</td>
<td>♦ BSS</td>
<td>♦ BSS</td>
</tr>
<tr>
<td>♦ Phone Screen Interview from SCID-IV</td>
<td>♦ SCID-IV interview</td>
<td>♦ BDI</td>
<td>♦ BDI</td>
<td>♦ BDI</td>
<td>♦ BDI</td>
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<tr>
<td>♦ BSS</td>
<td>♦ BDI</td>
<td>♦ BHS</td>
<td>♦ BHS</td>
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<td>♦ BHS</td>
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<tr>
<td>♦ BDI</td>
<td>♦ BAI</td>
<td>♦ BAI</td>
<td>♦ BAI</td>
<td>♦ BAI</td>
<td>♦ BAI</td>
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<tr>
<td>♦ BHS</td>
<td>♦ SPRI-R</td>
<td>♦ SPRI-R</td>
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<td>♦ SPRI-R</td>
<td>♦ SPRI-R</td>
<td>♦ SPRI-R</td>
</tr>
<tr>
<td>♦ BAI</td>
<td>♦ PSI</td>
<td>♦ PSI</td>
<td>♦ PSI</td>
<td>♦ PSI</td>
<td>♦ PSI</td>
<td>♦ PSI</td>
</tr>
<tr>
<td>♦ SPRI-R</td>
<td>♦ RFL-A</td>
<td>♦ RFL-A</td>
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<td>♦ RFL-A</td>
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<tr>
<td>♦ PSI</td>
<td>♦ STAI</td>
<td>♦ STAI</td>
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<td>♦ STAI</td>
<td>♦ STAI</td>
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</tr>
<tr>
<td>♦ RFL-A</td>
<td>♦ CORE</td>
<td>♦ CORE</td>
<td>♦ CORE</td>
<td>♦ CORE</td>
<td>♦ CORE</td>
<td>♦ CORE</td>
</tr>
<tr>
<td>♦ STAI</td>
<td>♦ PSSM</td>
<td>♦ PSSM</td>
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Following completion of questionnaires, participants viewed one of two video presentations. The control video was an approximately 25-minute presentation regarding current health issues such as proper diet, exercise and sleep habits. This presentation has been utilized as a standard video control presentation. The intervention video consisted of an approximately 35-minute presentation regarding problem-solving and coping styles. The video consisted of a psychoeducational module, aimed at explaining/defining problems, solutions, emotions and stress. In addition, a more interactive component, designed to elicit personal areas of problems, was introduced prior to the final module. This section encouraged participants to identify personal areas of stress and problem-solving difficulty, utilizing the Mooney Problem Checklist. Once specific problem areas were identified, the participants were encouraged to choose a problem to apply the skills learned in the rest of the video. The goal was identification of thoughts, behaviors and emotions that impede implementation of appropriate problem solutions.

This study utilized several follow-ups. Current research suggests a two-month follow-up is the minimum needed to assess gains, as coping skills require a time delay for implementation (Rudd et al., 1996). However, initial treatment gains tend to be the most comprehensive and the most enduring (Rudd et al., 1996). Follow-ups were scheduled at one week, two weeks, one month and two months following the baseline assessment. Follow-up questionnaire packets were sent home with participants. Telephone and e-mail contact with participants helped ensure compliance. Follow-ups consisted of self-reports related to suicide, problem solving and related psychopathology. At the completion of the study, participants were provided with a written debriefing statement.
Measures

The assessment measures differed across follow-ups; assessment packets are summarized in Table 1.

Structured Clinical Interview for Diagnosis for Axis I DSM-IV (SCID-IV). Current and past DSM-IV diagnoses for Axis I disorders were established through a structured diagnostic interview (First, Spitzer, Gibbon, & Williams, 1994), for screening purposes only.

Beck Suicide Scale (BSS). The BSS is a 19-item self-report measure designed to aid clinicians in assessing the broad spectrum of behaviors and attitudes when assessing individuals for suicide risk (Beck & Steer, 1993). This scale represents a revision of the Scale for Suicidal Ideation (SSI; Beck, Kovacs, & Weissman, 1979) to allow for self-report of suicidal symptoms. As a measure of suicidal ideation, the BSS reflects the presence of suicide intention, ranging from suicide wishes to attitudes and plans. This measure has been normed with inpatient and outpatient adult samples as well as some preliminary psychometric evaluation in adolescents (Beck & Steer, 1993). Psychometric properties assessed with an outpatient sample suggest strong internal consistency (α = .87). Test-retest data have been reported only for an inpatient sample, and results suggest moderate reliability estimates across a two-week retest interval (r = .54; Beck & Steer, 1993). Content, construct, concurrent and discriminant validity assessments have all shown moderate to superior psychometric properties.

Beck Depression Inventory (BDI). The BDI is a 21-item, self-report measure of symptoms of depression (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The BDI has been widely used with a considerable degree of research on its psychometric properties. It has sound psychometric properties, with high internal consistency reliability (α = .89) in addition to high levels of concurrent and construct validity. Test-retest reliability across a two-week retest interval with a non-psychiatric sample ranged from .60 to .90, while psychiatric samples had correlations ranging from .48 to .86 (Beck, Steer, & Garbin, 1988). The BDI has been used consistently as a pre- and post-treatment measure of depressive symptoms in research settings. According to Beck and Steer (1988), the mean score for outpatient suicidal ideators is 23.40 (SD = 9.45).

Beck Anxiety Inventory (BAI). The BAI is a 21-item, self-report inventory for measuring the severity of anxiety in psychiatric populations (Beck, Epstein, Brown, & Steer, 1988). A measure of state anxiety, the BAI measures the intensity of cognitive, affective and somatic anxious symptoms experienced in the previous week. Studies have shown high internal consistency (α = .92) and reliability, with r = .75 after a one-week retest period (Beck et al., 1988). Convergent and discriminant validity are moderate to good (Beck et al., 1988).

Beck Hopelessness Scale (BHS). The BHS is a 20 item, true-false self-report scale designed to measure the degree to which one’s cognitions are dominated by negative future expectancies (Beck, Weissman, Lester, & Trexler, 1974). Psychometric assessment of this scale shows high internal consistency (KR-20 = .93), as well as high levels of concurrent and construct validity (Beck et al., 1974). Studies of outpatients have shown hopelessness to be highly correlated with suicidal behavior, with scores on the BHS providing better prediction of suicidal behavior than self-reported symptoms of depression (Cannon et al., 1999). In the original sample, correlation between the BHS and clinician-rated hopelessness was .62.

Problem Solving Inventory (PSI). The PSI is a 35-item Likert-type questionnaire, assessing self-perception of problem solving behavior and attitudes (Heppner & Petersen, 1982). The total score provides a measure of overall social problem solving ability and there are three subscales. These subscales represent problem-solving confidence, approach-avoidance style and personal control. Higher
scores indicate more dysfunctional problem solving behaviors. Test-retest reliability for this measure after a one-month retest interval is .89 (Heppner & Petersen, 1982). Validity assessments have shown moderate to strong psychometric properties (Heppner, 1988; Heppner & Petersen, 1982).

**Social Problem Solving Inventory-Revised (S PSI-R).** The SPSI-R is a 70-item Likert-type inventory assessing problem orientation and problem-solving skills, shown to have adequate reliability and validity with adults (D’Zurilla & Nezu, 1990). The Problem Orientation factor consists of two subscales (Positive Problem Orientation and Negative Problem Orientation), with four subscales related to the skill domains. The Orientation scales measure cognitive, behavioral and affective orientation toward problems, while the skill scales represent direct measures of behavior when faced with problem situations.

**Reasons For Living Inventory: Adolescent Version (RFL-A).** The Reasons for Living Inventory: Adolescent Version (Osman et al., 1998) is a 32-item self-report inventory modified from Linehan’s original version, Reasons for Living When You Are Thinking Of Killing Yourself. Each item is rated from one through six (1: not at all important to 6: extremely important) based on how important the item is to the individual’s reasons for not committing suicide. Higher scores are therefore indicative of a greater number of reasons for living. In addition to the total score, there are five subscales measured by the inventory.

**State-Trait Anxiety Inventory (STAI).** The State-Trait Anxiety Inventory is a self-report measure of trait and state levels of anxiety (Spielberger, Gorsuch, & Lushene, 1970). This instrument has demonstrated excellent test-retest reliability across time periods ranging from several days to several weeks. Evidence supports moderate construct validity.

**CORE.** The CORE was developed for use with a college-aged sample and provides a basic measure of individual substance use (lifetime, per week and per month), perceptions of the use of others and attitudes toward use of different substances (Joiner, unpublished instrument). Evaluations of psychometric properties have not been conducted, as the measure only assesses self-report of substance use and attitudes toward substance use. In the current study, only age of onset of use and monthly usage rates were assessed.

**Analysis**

Pretreatment between-groups differences and post-treatment outcome effects were evaluated using a latent growth curve analysis (LGC). Latent growth curve modeling allows for evaluation of a multi-level model, repeated measures analysis. LGC estimates parameters for the population mean as well as subject specific (individual) regression coefficients, thus enabling one to look at both group change as well as individual variation over time (Verbeke & LeSaffre, 1996). Growth modeling techniques were developed to model individual differences in growth pattern or change over time, as assessed through performance across testing occasions. Individual differences as baseline (initial assessment) are assessed with intercept functions (random intercepts), while individual growth or change over time is modeled as random differences in slope. Further information can be found in Munthen & Khoo (1998), who provide a strong theoretical and statistical argument for growth techniques. LGC is ideal for repeated measures analyses, as it models individual differences in growth as well as assessment of missing data, including missing data that are not a result of random error (Muthen & Khoo, 1998). A powerful feature of the LGC models are increased power in assessments, based on the use of individual covariance matrices as well as including all available observations at each occasion of measurement.

The primary hypotheses tested the effectiveness of a problem-solving prevention video versus a general health control video. The *a priori* contrasts in this analysis tested the null hypothesis of 1) no
difference in rates of suicide ideation between the prevention and the control groups at baseline or across the two-month follow-up period and 2) no difference in levels of problem solving between the prevention and the control groups.

**Results**

Comparisons of individuals expressing moderate levels of suicidal ideation to those expressing no ideation revealed significant differences in psychopathology and associated risk factors for all psychopathology and problem-solving variables. This provides further support for the use of ideators as a “bridge” group between community controls and those evidencing more severe suicidal behavior. Results can be found in Tables 2 and 3.

Table 2. Comparison of Means of Ideators and Non-ideators on Measures of Psychopathology

<table>
<thead>
<tr>
<th>Measure</th>
<th>Non-Ideators</th>
<th>Ideators</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSS</td>
<td>.39 (1.48)</td>
<td>12.08 (5.90)**</td>
</tr>
<tr>
<td>BDI</td>
<td>5.82 (6.82)</td>
<td>17.06 (10.07)**</td>
</tr>
<tr>
<td>BHS</td>
<td>3.04 (3.68)</td>
<td>8.82 (5.39)**</td>
</tr>
<tr>
<td>BAI</td>
<td>7.52 (7.19)</td>
<td>15.39 (10.79)**</td>
</tr>
</tbody>
</table>

** p < .01

Interestingly, exposure to a brief video intervention regarding problem-solving and coping skills was sufficient to elicit significant decreases in suicidal ideation (Table 4) and depression (Table 5). Condition X Occasion of measurement was significant for the BSS [Wald’s $Z = 2.17, p \leq .05$]. Inspection of treatment means indicates this result was related to initial decreases in self-reported suicidality by the treatment group on the post-test assessment. Thus, while the two groups were not significantly different in levels of suicidality at each assessment, the treatment group evidenced a significant decrease in suicidality immediately following the intervention. There was a significant change in BDI scores over time, such that the treatment group improved more rapidly than the control group [Wald’s $Z = 2.72, p < .05$]. However, the overall level of depression in both groups remained high and suggests that the significant drop in depression following the intervention was short-lived. This was confirmed with evaluation of eta statistics for change, which indicated a small treatment effect [$\eta = .010$].

Other psychopathology variables remained stable (see Tables 6 and 7). Though these findings were both time limited and of modest clinical impact, they confirm the importance of incorporating problem-solving and coping skills modules into suicide treatment programs.

In contrast, we found little direct support for the role of problem-solving deficits in predicting suicidal ideation beyond their influence on psychopathology. More specifically, the influence of problem-solving deficits was mediated by depression and likely exerts an influence on suicide through its influence on mood. Despite this, ideating individuals clearly experience greater psychopathology and problem-solving deficits relative to their non-ideating peers.

In general, the results support continued development of short-term, free-standing interventions for serious psychopathology. The time-limited nature of the decreases in ideation and depression is reasonable, given the extremely brief nature of the intervention and the lack of regulated follow-up and review. Areas for intervention expansion include further exploration of the role of emotion regulation and...
its relationship to problem-solving. In addition, the current package may serve as an adjunctive tool for therapists, as a means of providing information relevant to therapeutic interventions. The brevity, portability and cost-effective nature of such interventions represent important areas for development to address the need for adjunctive therapies for individuals in crisis, particularly in the age of managed care.

Table 3. Comparison of Means of Ideators and Non-ideators on Measures of Problem-solving

<table>
<thead>
<tr>
<th>Measure</th>
<th>Non-Ideators</th>
<th>Ideators</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPSI:R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPO</td>
<td>11.52 (.432)</td>
<td>8.77 (.412)**</td>
</tr>
<tr>
<td>NPO</td>
<td>12.07 (9.35)</td>
<td>20.00 (9.72)**</td>
</tr>
<tr>
<td>RPS</td>
<td>41.00 (16.17)</td>
<td>36.84 (14.50)**</td>
</tr>
<tr>
<td>ICS</td>
<td>11.73 (7.26)</td>
<td>13.22 (7.74)**</td>
</tr>
<tr>
<td>AS</td>
<td>9.09 (6.20)</td>
<td>12.22 (6.50)**</td>
</tr>
<tr>
<td>Total Score</td>
<td>12.75 (3.23)</td>
<td>10.44 (3.03)**</td>
</tr>
<tr>
<td>PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSC</td>
<td>31.18 (1.43)</td>
<td>34.61 (1.14)**</td>
</tr>
<tr>
<td>AAS</td>
<td>49.24 (1.68)</td>
<td>50.83 (1.33)**</td>
</tr>
<tr>
<td>PC</td>
<td>16.11 (.635)</td>
<td>19.66 (.503)**</td>
</tr>
<tr>
<td>Total Score</td>
<td>96.30 (3.14)</td>
<td>105.10 (2.49)**</td>
</tr>
<tr>
<td>RFL-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FO</td>
<td>5.07 (1.14)</td>
<td>4.06 (1.31)**</td>
</tr>
<tr>
<td>SRC</td>
<td>4.42 (1.39)</td>
<td>3.35 (1.50)**</td>
</tr>
<tr>
<td>FA</td>
<td>4.80 (1.23)</td>
<td>3.94 (1.49)**</td>
</tr>
<tr>
<td>AS</td>
<td>4.80 (1.05)</td>
<td>4.16 (1.35)**</td>
</tr>
<tr>
<td>SA</td>
<td>5.05 (.977)</td>
<td>3.23 (1.43)**</td>
</tr>
<tr>
<td>Total Score</td>
<td>4.84 (.839)</td>
<td>3.75 (.947)**</td>
</tr>
</tbody>
</table>

**p < .01

Table 4. Comparison of BSS Scores for Treatment and Control Group Conditions Over Time

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Follow-Up 1</th>
<th>Follow-Up 2</th>
<th>Follow-Up 3</th>
<th>Follow-up 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 110)</td>
<td>(n = 110)</td>
<td>(n = 94)</td>
<td>(n = 89)</td>
<td>(n = 75)</td>
<td>(n = 45)</td>
</tr>
<tr>
<td>Control</td>
<td>12.8 (5.26)</td>
<td>10.68 (7.59)</td>
<td>9.07 (6.77)</td>
<td>9.63 (7.43)</td>
<td>9.48 (8.01)</td>
<td>7.70 (7.00)</td>
</tr>
<tr>
<td>Treatment</td>
<td>13.05 (4.37)</td>
<td>10.40 (5.29)*</td>
<td>8.03 (6.06)</td>
<td>8.88 (7.73)</td>
<td>8.18 (8.44)</td>
<td>6.69 (7.92)</td>
</tr>
</tbody>
</table>

* p < .05
Table 5. Comparison of BDI Scores for Treatment and Control Conditions Over Time

<table>
<thead>
<tr>
<th></th>
<th>Pre-test (n = 110)</th>
<th>Post-test (n = 110)</th>
<th>Follow-Up 1 (n = 94)</th>
<th>Follow-Up 2 (n = 89)</th>
<th>Follow-Up 3 (n = 75)</th>
<th>Follow-up 4 (n = 45)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>17.5 (10.72)</td>
<td>16.85 (11.22)</td>
<td>15.52 (11.47)</td>
<td>16.07 (13.37)</td>
<td>16.27 (12.83)</td>
<td>15.59 (12.73)</td>
</tr>
<tr>
<td>Treatment</td>
<td>16.62 (9.47)</td>
<td>13.26 (8.57)*</td>
<td>13.89 (9.30) *</td>
<td>15.89 (9.95)</td>
<td>15.20 (10.64)</td>
<td>16.14 (9.58)</td>
</tr>
</tbody>
</table>

* p < .05

Table 6. Comparison of BHS Scores for Treatment and Control Conditions Over Time

<table>
<thead>
<tr>
<th></th>
<th>Pre-test (N = 110)</th>
<th>Post-test (N = 110)</th>
<th>Follow-Up 1 (N = 94)</th>
<th>Follow-Up 2 (N = 89)</th>
<th>Follow-Up 3 (N = 75)</th>
<th>Follow-up 4 (N = 45)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>8.80 (5.13)</td>
<td>8.66 (5.63)</td>
<td>8.49 (5.78)</td>
<td>8.91 (6.52)</td>
<td>9.00 (6.09)</td>
<td>8.46 (5.99)</td>
</tr>
<tr>
<td>Treatment</td>
<td>9.00 (5.77)</td>
<td>8.52 (6.06)</td>
<td>8.89 (5.85)</td>
<td>8.67 (6.02)</td>
<td>8.03 (6.66)</td>
<td>9.50 (6.54)</td>
</tr>
</tbody>
</table>

Table 7. Comparison of BAI Scores for Treatment and Control Conditions Over Time

<table>
<thead>
<tr>
<th></th>
<th>Pre-test (N = 110)</th>
<th>Post-test (N = 110)</th>
<th>Follow-Up 1 (N = 94)</th>
<th>Follow-Up 2 (N = 89)</th>
<th>Follow-Up 3 (N = 75)</th>
<th>Follow-up 4 (N = 45)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>16.07 (11.87)</td>
<td>13.68 (11.38)</td>
<td>13.58 (12.79)</td>
<td>11.57 (11.25)</td>
<td>11.74 (10.41)</td>
<td>10.35 (11.29)</td>
</tr>
<tr>
<td>Treatment</td>
<td>14.47 (9.68)</td>
<td>11.24 (9.51)</td>
<td>10.11 (9.83)</td>
<td>11.79 (11.17)</td>
<td>8.61 (7.47)</td>
<td>8.36 (8.40)</td>
</tr>
</tbody>
</table>

REFERENCES


**Other publications of the research to date**

Fitzpatrick, k. K. (2004). *Parameters of suicidal ideation: Efficacy of a brief preventive intervention for suicidal ideation and the course of suicidal ideation and its correlates*. Unpublished doctoral dissertation. The Ohio State University, Columbus, OH.
Efficacy of Individual Family Psychoeducation (IFP) in Treating Early Onset Bipolar Disorder

The Ohio State University
Division of Child and Adolescent Psychiatry
Mary A. Fristad, PhD, ABPP

Over the last decade, childhood bipolar disorder, previously known as manic-depression, has received increasing attention from both the scientific community and the general public (Lofthouse & Fristad, in press). Previously considered virtually nonexistent (Anthony & Scott, 1960), Early-Onset Bipolar Disorder (EOBPD) does not appear to be as rare as once thought. While no epidemiological studies currently exist for children, in a retrospective survey, 31 percent of 500 National Depressive and Manic-Depressive Association group members, self-identified with bipolar disorder, recalled symptom onset during childhood and 28 percent reported onset during adolescence (Lish et al., 1997). EOBPD has a chronic/relapsing course, wreaks havoc on family, school and peer functioning, and may lead to legal difficulties, multiple hospitalizations, substance abuse, and suicide (Findling, Kowatch & Post., 2003; Geller et al., 2003; Lewinsohn, Seeley & Klein, 2003).

The exact cause(s) of EOBPD is unknown, but substantial evidence in the adult literature and recent research with children/adolescents suggests a biological basis involving genetics, various neurochemicals in the brain, and certain affected brain regions (Findling et al., 2003). Whereas EOBPD appears to have a biological cause, its developmental course may be exacerbated by environmental factors such as family, teacher and peer conflict, academic stress, and sleep-wake cycle disruption (see review by Lofthouse & Fristad, in press).

Although pharmacological interventions are a necessary primary treatment for bipolar disorder in children, adolescents and adults, alone they are not sufficient (AACAP, 1997). Lofthouse and Fristad (in press) reviewed treatment components from effective psychosocial interventions for adult bipolar disorder, childhood unipolar depression, and, because irritability is a prevalent and highly problematic symptom of EOBPD, child anger management treatment programs. Their review suggested two family-based treatment components may be beneficial in the psychosocial treatment of EOBPD: information sharing (psychoeducation) with family members about the disorder, its course, prognosis and treatments; and the development of cognitive-behavioral skills to help parents and children manage symptoms in home, school and peer relationships.

To date, only one published study has documented the efficacy of a psychosocial intervention (Multi-Family Psychoeducation Group: MFGP) for families of children with EOBPD (Fristad, Goldberg-Arnold & Gavazzi, 2003). However, not all families, clinicians or treatment settings can utilize group treatment. Thus, we have developed and are currently testing an individual family version of MFGP, Individual Family Psychoeducation (IFP), in an ODMH-supported randomized control pilot study.

Our primary goal for this pilot study is to determine the efficacy of IFP in the adjunctive treatment of children with EOBD. We developed a design paralleling the MFGP study, so that, as a secondary goal, we could compare IFP to MFGP. As with MFGP, IFP is designed to be a psychoeducational/psychosocial intervention, adjunctive to the ongoing pharmacotherapy, psychotherapy and school-based intervention a child receives.
Participants

Thirty-four families with children aged 8 to 11 were screened for participation. Of these, 28 (82%) passed the screen and attended a baseline assessment. Of these, 20 (71%) met study inclusion criteria and, along with their self-identified primary parents, were recruited to participate. Recruitment resources included: psychologist (n = 8, 40%); media (n = 7, 35%); psychiatrist (n = 2, 10%); school counselor (n = 1, 5%); library poster (n = 1, 5%); and MFPG study (n = 1, 5%). Twenty mothers and children were assessed at Time 1. Most children were male (n = 18, 85%), Caucasian (n = 18, 90%) and from two-parent (including step-parent) families (n = 13, 65%). Incomes were equitably distributed, with 20 percent (n = 4) below $39,000, 40 percent (n = 8) between $40,000-$79,000 and 40 percent (n = 8) over $80,000. Many families (n = 8; 40%) traveled from rural or geographically remote areas to participate (average roundtrip: M = 70 miles, SD = 70 miles, range 14-344 miles).

Primary mood diagnoses include Bipolar I Disorder (n = 4, 20%), Bipolar II Disorder (n = 3, 15%), and Bipolar Disorder-Not Otherwise Specified (n = 13, 65%). Children have, on average, been impaired a considerable length of time (manic episode, M = 482.2 days, SD = 880.2; Major Depressive Disorder: M = 73.5 weeks, SD = 121.8; and Dysthymic Disorder: M = 85.3 weeks, SD = 145.7). Most of the children also have some type of comorbidity including: behavioral (n = 19, 95%), anxiety (n = 14, 70%) and “other” disorders (n = 10, 50%). Family history is also significant for mood disorders including 53 percent of children with first and/or second degree relatives with bipolar disorder; 79 percent with first and/or second degree relatives with depressive disorders; and 84 percent with first and/or second degree relatives with bipolar disorder or depressive disorders.

Measures

Comprehensive family, developmental, medical, social and school histories were taken, along with a mood lifeline to demarcate onset, duration, severity, impairment and offset of mood symptoms during the child’s life. The Children’s Interview for Psychiatric Syndromes-Child and Parent Forms (ChIPS: Weller et al., 1999; P-ChIPS: Weller et al., 1999) were used to assess mood and comorbid diagnoses for children. The Children’s Depression Rating Scale-Revised (CDRS-R; Poznanski et al., 1984) and The Mania Rating Scale (MRS: Young et al., 1978) were used to measure children’s depressive and manic symptom severity, respectively.

At the initial assessment, worst lifetime functioning and current functioning (i.e., two weeks preceding the evaluation) were ascertained for manic and depressive symptoms. All preceding information was presented at an initial case review to determine study eligibility. If eligible, the participant’s assessment data were then reviewed independently by two licensed psychologists, well acquainted with EOBPD, to determine specific mood diagnoses. Following independent review, a consensus conference was completed to finalize mood diagnoses and to assign a Children's Global Assessment Scale (C-GAS: Shaffer et al., 1983) score to document child’s global functioning. A similar consensus conference procedure was also conducted after each of the three follow-up assessments. For more detailed descriptions and psychometrics of measures see Fristad et al., (2003).

To examine parents’ and children’s posttreatment evaluation of IFP, we used 15-item anonymous parent self-report forms and 13-item anonymous child self-report forms (Fristad & Gavazzi, 1994). Additional measures of treatment utilization, knowledge of mood disorders, family history, parental psychopathology, stressful life events, caregiver concordance, expressed emotions, treatment beliefs and expectations, and social support were taken at each of the four assessments.
Procedure

Four assessments are conducted with each family throughout an 18-month period, at baseline (Time 1), six months (Time 2), twelve months (Time 3), and 18 months (Time 6) following study enrollment. After baseline assessment, 10 families were randomized to an Immediate (IMM) treatment condition and 10 families to a 12-month Wait-List-Control (WLC) condition. As IFP is an adjunctive intervention, all families have been encouraged to continue treatment as usual during the study. After one year, WLC families participate in IFP.

IFP treatment includes the two components of psychoeducation and skills development delivered in 16 50-minute sessions, alternating between parent-only sessions and, after the requisite “check-in,” child-only sessions. Of these, six sessions are psychoeducational, wherein parents and children learn about: manic and depressive symptoms and comorbid conditions including ADHD, anxiety disorders and psychotic symptoms; how to differentiate the child from his/her symptoms; how to develop their own treatment goals; medications and side-effect management; and parents learn about mental-health, school and community-based treatment teams and services, and how to work effectively with service providers.

The remaining sessions are devoted to teaching families skills to deal with specific issues associated with EOBPD such as “feelings management,” basic cognitive-behavioral principles (i.e., how thoughts, feelings and behaviors are related and can be modified), problem-solving and communication skills. Separate parent sessions focus on developing strategies to deal with negative family cycles, the stress of parenting a child with a mood disorder, and specific issues in managing manic and depressive symptoms. One “in the bank” session can be used anytime for families to deal with crises, invite school professionals, and/or review previous material. An additional unit on “Healthy Habits” is included to improve sleep hygiene, nutritional eating practices and developmentally appropriate exercise routines. For a more detailed description of IFP sessions see Fristad and Goldberg-Arnold (2003) and Goldberg-Arnold and Fristad (2003).

Preliminary Results

Attrition for the whole sample is currently 25 percent (IMM=20%, WLC=30%). To date, the 16-session IFP treatment program has been completed by eight IMM and four WLC families. Three WLC families are currently in treatment.

Parents’ consumer evaluations of IFP are quite positive (see Table 1). Attending sessions led parents to report that they learned: 1) to understand that their child’s symptoms, medications and their child’s mood problems are not their fault; 2) how to get appropriate therapy, manage the child’s mood symptoms and work with their child’s school, and 3) what to do/not to do at home to help their child. Individual sessions appeared to help parents feel supported but did not seem to make them feel uncomfortable about sharing information. Finally, parents reported that their children benefited from participation and the parents themselves also benefited from the workbook, therapist’s input, family projects, and parent-only worksheets.

Child reports are also positive (see Table 2). Children reported that they learned about: 1) mood symptoms and medications; 2) how to get along better with their family, friends and at school, and 3) how to deal with problems that occur with mood. Furthermore, individual sessions appeared to help children feel supported and less alone, knowing that they were not the only one dealing with mood problems, but did not seem to make children feel uncomfortable about sharing information. In addition, children reported liking role-plays, activities/discussions, and their therapist. Finally, children tended to agree that their parents’ behavior toward them was better and disagreed that their parents’ behavior toward them was worse since starting IFP.
Table 1. Individual Family Psychoeducation (IFP) Parent Evaluations ($n = 7$)

<table>
<thead>
<tr>
<th>Item</th>
<th>M</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attending sessions helped me understand:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child’s symptoms</td>
<td>1.6</td>
<td>(0.9)</td>
</tr>
<tr>
<td>Child’s medications</td>
<td>1.9</td>
<td>(0.9)</td>
</tr>
<tr>
<td>How to get appropriate therapy</td>
<td>1.8</td>
<td>(0.8)</td>
</tr>
<tr>
<td>How to manage child’s mood symptoms</td>
<td>1.2</td>
<td>(0.4)</td>
</tr>
<tr>
<td>What to do/not do at home to help child</td>
<td>1.4</td>
<td>(0.6)</td>
</tr>
<tr>
<td>How to work with my child’s school</td>
<td>2.0</td>
<td>(1.0)</td>
</tr>
<tr>
<td>My child’s problems are not my fault</td>
<td>1.8</td>
<td>(1.1)</td>
</tr>
<tr>
<td><strong>Group/individual sessions made me feel:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncomfortable sharing personal information</td>
<td>4.7</td>
<td>(0.9)</td>
</tr>
<tr>
<td>Supported</td>
<td>1.8</td>
<td>(0.8)</td>
</tr>
<tr>
<td><strong>I benefited from:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workbook</td>
<td>1.8</td>
<td>(0.8)</td>
</tr>
<tr>
<td>Therapist’s input</td>
<td>1.2</td>
<td>(0.4)</td>
</tr>
<tr>
<td>Child’s participation in therapy</td>
<td>1.8</td>
<td>(0.8)</td>
</tr>
<tr>
<td>Family projects</td>
<td>2.2</td>
<td>(1.3)</td>
</tr>
<tr>
<td>Parent only worksheets</td>
<td>1.6</td>
<td>(0.9)</td>
</tr>
<tr>
<td><strong>My child benefited from:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>His/her participation</td>
<td>1.2</td>
<td>(0.5)</td>
</tr>
<tr>
<td><strong>Overall Mean Rating$^a$</strong></td>
<td>1.7</td>
<td>(0.6)</td>
</tr>
</tbody>
</table>

$^a$Average of all items, with “uncomfortable sharing with others” reverse scored.

Table 2. Individual Family Psychoeducation (IFP) Child Evaluations ($n = 7$)

<table>
<thead>
<tr>
<th>Item</th>
<th>M</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attending sessions helped me:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learn about mood symptoms</td>
<td>1.6</td>
<td>(0.6)</td>
</tr>
<tr>
<td>Learn about my medications</td>
<td>1.4</td>
<td>(0.9)</td>
</tr>
<tr>
<td>Get along better with family</td>
<td>2.4</td>
<td>(0.9)</td>
</tr>
<tr>
<td>Get along better with friends</td>
<td>2.2</td>
<td>(1.1)</td>
</tr>
<tr>
<td>Get along better at school</td>
<td>1.8</td>
<td>(1.1)</td>
</tr>
<tr>
<td>Deal with problems that occur with mood</td>
<td>2.0</td>
<td>(1.0)</td>
</tr>
<tr>
<td><strong>Group/individual sessions made me feel:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncomfortable talking about self$^b$</td>
<td>3.7</td>
<td>(1.8)</td>
</tr>
<tr>
<td>Less alone</td>
<td>2.4</td>
<td>(0.6)</td>
</tr>
<tr>
<td><strong>I liked:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doing role plays</td>
<td>1.0</td>
<td>(0.0)</td>
</tr>
<tr>
<td>Other activities/discussions</td>
<td>1.2</td>
<td>(0.5)</td>
</tr>
<tr>
<td>My therapist</td>
<td>1.4</td>
<td>(0.9)</td>
</tr>
<tr>
<td><strong>My parents’ behavior toward me is:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Better since we came to these sessions</td>
<td>2.4</td>
<td>(0.9)</td>
</tr>
<tr>
<td>Worse since we came to these sessions</td>
<td>4.5</td>
<td>(0.9)</td>
</tr>
<tr>
<td><strong>Overall Mean Rating$^a$</strong></td>
<td>1.8</td>
<td>(0.5)</td>
</tr>
</tbody>
</table>

$^a$Average of all items, with “uncomfortable talking about self” and “worse since we came…” reverse scored.
Discussion

EOBPD is a potentially devastating disorder, both to the child and his or her family. Although pharmacologic interventions are the first choice for treatment, adjunctive psychosocial interventions are a critical component of comprehensive care. To date, little research has been conducted on psychosocial treatments for children with EOBPD. In response to the void of psychosocial options for EOBPD, and on the basis of empirical work in related areas, our research group has developed two psychoeducational intervention formats, MFGP and IFP. Preliminary consumer evaluation data are encouraging and indicate the content of and method of delivery for IFP is perceived positively by both parents and children.

Implications

Preliminary results suggest that IFP is a consumer friendly form of psychosocial intervention for families of children with EOBPD.

Limitations

Although preliminary results are encouraging, the sample size for this pilot was small ($N = 20$) and was further reduced by participant attrition.

Future Research

In addition to completing data collection for IFP and analyzing post-treatment outcome data to examine the efficacy of IFP, future studies should 1) examine, in greater depth, the efficacy of IFP in a large ($N = 125$) scale RCT; 2) determine the mechanisms of change (e.g., improving children’s social skills deficits); 3) determine the efficacy of MFGP and IFP in other settings and in studies conducted by other investigators; 4) examine the delivery of MFGP and IFP to community mental health settings, and 5) develop psychoeducational materials for children of different age ranges (e.g., 6-8 year olds, adolescents).

REFERENCES


Other Publications of the Research to Date


Paper Presentations of the Research to Date


INTENSIVE COMMUNITY-BASED TREATMENT
OF CHILDREN, ADOLESCENTS, AND THEIR FAMILIES:
THE EFFECTIVENESS OF FAMILY-COMMUNITY SYSTEMS THERAPY (FCST)

The Ohio State University
College of Social Work

Mo Yee Lee, PhD, RSW           Gilbert J. Greene, PhD, LISW

In the past decade, home-based treatment and/or intensive community-based treatment have been
increasingly used for treating families with a child or adolescent who is at risk of out-of-home placement.
Often, it provides a less intrusive, more cost-effective and beneficial alternative for residential treatment or
out-of-home placement of the child or adolescent. Effective treatment of a severely disturbed child or
adolescent frequently necessitates treatment of the family system as well as coordination of diverse services
for the benefit of the child and the family. Different approaches to home-based treatment have been
developed to address the multiple needs of these families and children. All of these treatment approaches
operate from a systems theory perspective and to varying degrees are based on structural-strategic family
therapy. Some of these approaches also include parent education and individual treatment of the child as
part of the treatment package. These approaches include but are not limited to Brief Strategic Family
Therapy (Szapocznik, Robbins, Mitrani, Santisteban, Hervis & Williams, 2002); Multidimensional Family
Therapy (MDFT) (Hogue, Liddle, Becker & Johnson-Leckrone, 2002; Hogue, Liddle & Becker, 2002),
Ecosystemic Structural Family Therapy (ESFT) (Jones & Lindblad-Goldber, 2002), and Multisystemic
Therapy (MST) (Henggler, Schoenwold, Rowland & Cunningham, 2002).

In providing services within the contexts of real-world, day-to-day practice, community mental
health agencies are consistently challenged to develop and deliver realistic home-based family-centered
treatment that meets local needs and is effective in accomplishing the following goals: 1) a home-based
model that is developed and implemented from within the community mental health system; 2) prevention
of out-of-home placement or residential placement of the symptomatic child; 3) inclusive of families of
diverse nature and problems that occur in the real world of community mental health agencies; 4) cost-
effective in attaining the goals of the home-based treatment, and 5) functional collaboration with institutions
that determine placement, including but not limited to Juvenile Courts and Children Services.

Though found to be effective, the family intervention approaches mentioned above are expensive to
implement. Training and supervision of treatment staff in using these approaches are extensive and
expensive. Because of the intensity of treatment, staff turnover is high, resulting in increased costs in
training new staff. A challenge for a community agency that provides treatment for at-risk children,
youth and families is “how to provide effective interventions and services that can realistically fit within
available budget and resource capabilities as well as the realities of frontline mental health practice.”
Community agencies increasingly have to use treatment approaches having empirical evidence
supporting their effectiveness, but does an agency have to adopt one evidence-based approach over
others and does it have to adopt it in its entirety? If the evidence-based family therapy approaches
mentioned above all have been found to be effective, are there not factors they have in common that can
be transported to a community agency and coherently and effectively applied within its existing
resources? A review of this evidence-based literature resulted in identifying several common factors
which have been integrated into a coherent treatment protocol that can be consistently and effectively
used within the practice realities of community mental health in working with children, adolescents and
families at risk. We call the treatment approach Family-Community Systems Therapy (FCST).
This project involves developing and examining the effectiveness of FCST which consists of three major core components. Case managers and therapists are trained in FCST and they can utilize and integrate their expertise around these components (Duncan, Solovey & Rusk, 1992). These three core treatment components are: 1) establish and maintain a therapeutic alliance with families that will facilitate the collaborative development of a common understanding of the problem, behaviorally specific treatment goals, and activities to achieve these goals with the family; 2) within the context of this therapeutic alliance work collaboratively with the family members to change behavioral patterns that will result in solving presenting problems and achieving treatment goals, and thus, second-order change, and (3) develop and maintain collaborative teamwork with community agencies that includes the development of a service package addressing the organic needs of the family and the child. The simplicity of the model should reduce cost of training, increase utilization of case managers’ and therapists’ prior expertise, and create a context for focused treatment efforts and therapeutic interventions.

**Goals of the Study**

The project’s goal is to test the effectiveness of Family-Community Systems Therapy (FCST). In addition, we examine specific treatment components of FCST that predict positive outcomes in children and families. The ultimate purpose of conducting this study is to find out whether FCST is effective in reducing out-of-home placement of at-risk children and adolescents and improving individual and family functioning. We hypothesize that FCST treatment will be effective in achieving the long-term outcomes goals of improved functioning and reduced behavioral and/or emotional problems in the symptomatic child, which will in turn lead to the avoidance of out-of-home placement of the child. Effective treatment should also result in achieving the intermediate treatment goals of increased parental efficacy in addressing their child’s issues, increased sense of empowerment of parents in relation to treatment providers, increased family participation in the treatment process, and improved family functioning (Figure 1). The study also explores research questions pertaining to treatment and program structure components; this information will be invaluable for us in further refining the treatment model.

The research questions are: 1) What are the specific treatment components associated with positive outcomes in children and families? 2) What are the turnover rates of case managers and therapists of FCST? 3) How inclusive is FCST of families and treatment populations that receive treatment from community mental health agencies? 4) What are helpful treatment components as perceived by the parents? 5) What are helpful therapists’ behaviors as perceived by the parents? 6) What are unhelpful treatment components as perceived by the parents?
Figure 1. Framework of the study

**Core treatment**

**Components of FCST**

- Therapeutic alliance
- Second-order change strategies to initiate change in family interactional patterns
- System collaboration

**Intermediate Outcome Goals**

- Parental competence with service providers
- Parental competence with children
- Family functioning

**Long-term Outcome Goals**

- Child functioning:
  - Improved functioning
  - Reduction in symptoms
- Child’s placement status

**Subcomponents**

- Child functioning
- Parental competence with children
- Family functioning
- Parental competence with service providers

- System collaboration
- Family participation
Methodology

The study uses a one-group pre- and post-test design with a six-month follow-up to test the effectiveness of FCST in treating families with children at risk of out-of-home placement and receiving intensive community-based treatment. Two research sites are included in the study. The Scioto Paint Valley Mental Health Center serves five counties of the Paint Valley Alcohol, Drug Addiction and Mental Health Services Board service area. Thompkins Child and Adolescent Services serves six counties of the Muskingum Alcohol, Drug Addiction and Mental Health Services Board service area. Participants of the research include 100 families with children or adolescents at risk of out-of-home placement who are receiving intensive community-based services from Scioto Paint Valley Mental Health Center or Thompkins Child and Adolescent Services. The Court, Children’s Services, hospitals, or other mental health agencies can refer families to the programs. Both parents and the children who are at risk of out-of-home placement and are 12 years old or older will be invited to participate in the study. Participation in the study is voluntary and formal written consent is obtained from all participants. Families participating in the study receive intensive community-based services up to a six-week period with additional six-week increments negotiated based upon the family’s needs and progress. Treatment conditions are standardized by requiring the participating case managers and therapists to adhere to a standard protocol of treatment structure and techniques. Training and ongoing consultation in FCST are provided to participating case managers and therapists to ensure the standardization of treatment conditions. The FSCT Checklist is used to measure treatment fidelity.

In this study, independent variables are the core treatment components of FCST, namely, therapeutic alliance, second-order change strategies for changing family patterns, and systems collaboration. Dependent variables include child’s placement status, level of functioning of the child, level of problems, level of family functioning, family participation in the treatment process, parental competence in relation to the child and parental competence in relation to service providers (Table 1).

A series of paired-sample t-tests will be used to compare the pre-treatment, post-treatment and follow-up measures of the assessment instruments regarding child functioning, family functioning, parental competence in relation to the child, parental competence in relation to service providers and family participation. Repeated measures analysis of variance will be employed to assess the within-subjects changes during the three assessments. Correlational analyses will be used to examine the relationships between therapeutic alliance, second-order change strategies, systems collaboration and the level of child’s functioning as well as level of child’s functioning with the placement status of the symptomatic child. Structural equation modeling will be used in the final phase of data analysis to develop a causal model that account for positive outcomes in families including treatment variables and families’ profiles and demographic variables. The software, AMOS4, will be used to conduct the analysis.

Applicability

Family-Community Systems Therapy (FCST) is a home-based model that is developed and implemented from within the community mental health system. FCST is developed based on evidence-based common factors for intervening with at-risk families and their children and adolescents. By “stripping down” family intervention to the essential evidence-based components, it is our belief that treatment can be made as uncomplicated as possible, allowing case managers and therapists to utilize their own expertise in the treatment process and still be effective. In addition, such an integrative approach can readily mesh with the realities of everyday practice demands on staff. If FCST is found to be effective with this client population in the way we have constructed and implemented it, then it can provide an alternative, feasible and effective home-based treatment model that addresses the challenges of cost containment, staff turnover and continuity of system of care for families with children at risk of out-of-home placement.
### Table 1. Study Variables, Instruments and Administration Schedule

<table>
<thead>
<tr>
<th>Model parameters</th>
<th>Study Variables to be measured</th>
<th>Instruments</th>
<th>Reporting sources</th>
<th>Pre-treatment</th>
<th>Termination</th>
<th>Six-month Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate outcome goals</td>
<td>Child’s placement status</td>
<td>Location, length and times of placement</td>
<td>Parents</td>
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<td>X</td>
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<td>Parenting competence in relation to the child</td>
<td>Parenting competence in relation to the child</td>
<td>Parent questionnaire (Compiled by M. Y. Lee, items adapted from Parental Locus of Control with permission from R. D. Lyman)</td>
<td>Parents</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Parental competence in relation to service providers</td>
<td>Parental competence in relation to service providers</td>
<td>Parent questionnaire (Compiled by M. Y. Lee, items adapted from Family Empowerment Scale with permission from Paul Koren, Regional Research Institute for Human Services, Portland State University)</td>
<td>Parents</td>
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<td>X</td>
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<tr>
<td>Family Participation</td>
<td>Family Participation</td>
<td>Family Participation Measure (Regional Research Institute for Human Services, Portland State University, 2001)</td>
<td>Parents</td>
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<td>X</td>
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<tr>
<td>Core treatment components of FCST</td>
<td>Therapeutic Alliance</td>
<td>Family Alliance Scale (W. M. Pinsof)</td>
<td>Parents</td>
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<tr>
<td>Core treatment components of FCST</td>
<td>Second-order change strategies</td>
<td>“Second-order change strategies” in FCST Treatment Checklist (M. Y. Lee and research team)</td>
<td>Supervisors</td>
<td>X</td>
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<td></td>
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<tr>
<td>Treatment fidelity</td>
<td>Treatment fidelity of the Wraparound process</td>
<td>WOF-2 (Nordness &amp; Epstein, 2003)</td>
<td>Researchers</td>
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<tr>
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<td>Treatment fidelity of FCST</td>
<td>FCST Treatment Checklist (M. Y. Lee and research team)</td>
<td>Clinical supervisors, researchers</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Client satisfaction</td>
<td>Parents’ evaluation of the program</td>
<td>Evaluation Survey (M. Y. Lee &amp; G. J. Greene)</td>
<td>Parents</td>
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REFERENCES


This research explores the Ohio Department of Mental Health’s (ODMH) successful approach to downsizing its system of state psychiatric hospitals, while at the same time sustaining the “core competencies” of these facilities and improving their quality and relevance. The impetus for downsizing was 1988 Ohio legislation that reflected national trends--moving mental health care from an institutional and state-focused approach to locally managed community care. In Ohio’s approach (Mental Health Act of 1988, Am. Sub. S.B. 156), funds which formerly came “off the top” of the budget to finance hospital care were placed under control of county boards. The boards could then use funds to purchase community care, or hospital services, as they desired. The legislation eliminated an unintended subsidy of institutional care, and threatened the existence of the hospitals.

The study traces 12 years of downsizing efforts made to help implement this legislation, with the ODMH as the unit of analysis. The study relies upon two unique data sources: monthly interviews with the Director of ODMH over the 12-year period along with weekly reports written by the Director (the strategic leader of ODMH) for the Governor. These data bases document the actions taken to downsize and the consequences of these actions over the 12-year period from 1990 to 2002.

The study addresses several questions. First, what are the keys to success in downsizing, which seems an inevitably negative experience for organizations? Second, what is required to mount and sustain a successful effort? Third, can the negative effects of downsizing, such as destruction of morale and erosion of capacity, be avoided?

Downsizing

Several downsizing approaches have been described in the literature. Due to space limitations we consider only the two to be compared to the downsizing effort of ODMH. Cameron et al., (1993) offers guidelines for downsizing to overcome undesirable effects. Nutt (2001) calls for managed “de-development,” an effort to preserve essential organizational competencies and needed organizational complexity during downsizing.

Cameron et al. (1993) see downsizing as a pre-emptive move, carried out to improve organizational performance. The “bigger is better” assumption is challenged; smaller may also be better because a reduced scale of operations can reduce redundancy and increase adaptability. Downsizing is carried out by reductions in work force, and organizational and systemic changes in institutional influences such as culture. Thus, downsizing focuses on changes in scale, reducing the size of the work force and modifying work processes to improve efficiency. The focus is to alter or to eliminate all operations that fail to add value (Cameron, 1981).

Downsizing is widely used (Budros, 1999). Swoboda (1995) reports that 94 percent of the companies he surveyed in the U.S. and Europe downsized in the two-year period between 1993 and 1995. In a national survey, Henkoff (1994) found that in the past decade more than one third of the medium to large U.S. firms have been downsized annually. These changes typically produce favorable outcomes
that quickly fade. Two thirds of downsized companies do it again within a year (Cameron & Smart, 1997). Half fail to achieve their cost cutting goals and report declines in productivity, morale and trust (Henkoff, 1994). Only one-third achieved desired results (Burton, et al., 1996). These failures have been attributed to the fallout resulting from downsizing; it can prompt the destruction of trust and loyalty, loss of knowledge, and an erosion of culture (Cascio, 1993; Daugherty and Bowman, 1995).

Cameron et al. (1993) identify these undesirable outcomes as the “dirty dozen”--reduced power sharing, short-term orientation, less creativity and learning, protectionism, in-fighting, the formation of interest groups, cuts being made without priorities, declining confidence in leaders, conflict over who-gets-what, cover-ups of performance failures, declining teamwork, and increased scapegoating. Cameron linked these bad outcomes with performance declines in two of three organizations attempting downsizing. Cameron (1995) found that downsizing success was related to involvement and participation, accessible missionary leadership, broad information sharing, finding and sharing slack resources, reliance on teams, and creating equitable incentives.

Cameron’s work poses several questions. How can the leaders of public sector organizations survive constant rounds of budget cutting that periodically force downsizing on their agencies? If the “dirty dozen” recurrent challenges pose problems for firms, they should create even more difficulties in public sector organizations. Downsizing in the public sector can be even more frequent than in the private sector, and public organizations operate in a media/political fishbowl, with greater scrutiny of management actions.

Another approach to downsizing calls for “managed de-development.” This approach seeks to manage the process to preserve the organization’s core competencies (Nutt, 2001). Typically, unplanned “de-development” follows downsizing, as the organization unintentionally loses key competencies and processes that were part of its underlying strength. Managing this process seeks to sustain essential capacities: synergies that integrate products/services, clients/customers, channels, sources of revenue, skills, collaborative advantage, ways to organize, and image. Without careful attention, the unraveling of an organization in downsizing can begin with any component, such as the loss of crucial experience/skills, and can spin out of control. This is especially tricky because of the synergies that can occur, e.g., between skills and clients. Losses can “snowball” in an unanticipated fashion; the lost client base leads to lower reimbursements, renders services inefficient, threatens service lines, and tarnishes agency image.

In complex environments, these losses can occur at a surprising speed and lead to disproportionately greater losses than anticipated. For example, states that downsize their mental health hospitals rapidly with closures and mass layoffs of employees appear to have lost more system capacity than expected. This is not to say that closing hospitals is always bad. This step can be necessary as well as politically expedient--funds can be diverted to solve other budget problems, and the “waste” associated with “inefficient institutions” can be reduced. However, if closing of institutions is not managed very carefully at many levels, the system suffers. If the process is confrontative, the resulting conflict can become the core concern of constituents--as opposed to issues of quality or access to care. Similarly, if the savings are not redirected to preserve community treatment capacity, the closures appear to be a “negative sum game.” The issues which must be well managed rest at the agency level, the institution level, and even at the level of the Governor.

The example of institutional closures also illustrates how the consequences of de-development can spin out of control in unintended and unexpected ways. For example, while the facilities targeted for closure are in the middle of controversy, the remaining facilities, thought to be “winners” in this process, can also be damaged. Layoffs at one facility can lead to “bumping” of staff from surviving facilities, eroding morale. The best staff, reading the tea leaves, can become early-leavers, depriving the treatment
system of competence and eroding its reputation. As this occurs, recruitment can further suffer. The competence of the remaining facilities—which should be higher given their crucial back-up role—can also suffer. Thus, the effects of not managing de-development can escalate.

Further, the closing of hospitals can reduce the overall capacity of the mental health system even if funds are transferred to community care. Traditionally, mental health hospital budgets were “protected” by budgeting practices that index funding to labor and personnel costs. Cutting institutional capacity, and allocating monies to non-state services, can make the reallocated funds more readily subject to budgetary erosion, as funding for community care is not typically indexed to labor contracts. These changes illustrate how the complexities of cutbacks can escalate.

These examples do suggest that the de-developmental process might be manageable. “Managed de-development” seeks to limit the unraveling of key strategy components. It attempts to create a “soft landing” that protects core competencies. Seeking ways to understand managed de-development, Nutt (2001) examined case histories, seeking to discover principles and guidelines. The lessons suggest that leaders should: 1) guide their efforts with a vision for the downsized system; 2) differentiate then integrate system change; 3) pay attention to people in the transition (both accommodating needs, and sustaining the competencies needed after downsizing, and 4) slow down the pace of change.

**Methods**

The study chronicles the downsizing carried out in one of the nation’s largest and best-run state mental health agencies. Both the Ohio Department of Mental Health (ODMH) and its director and strategic leader (SL) for the past thirteen years, Michael F. Hogan, are highly regarded. Ohio’s public mental health system has long been recognized as an exemplar, being rated fourth in the last ranking by Public Citizen/NAMI of state mental health systems (1990). Hogan was chosen to chair the President’s New Freedom Commission on Mental Health in 2002. ODMH and the system it oversees have been recognized for strength and continuity of leadership, clarity of structure, clinical excellence, and their work in recovery and cultural competency.

To follow downsizing events calls for a study of process. This type of process study traces the unfolding of events in an exemplar organization. Actions are captured as they occur. This requires the researcher to be positioned to observe events as they happen (Spradley, 1980). The risks, time and cost of observing over long periods of time have drastically limited such studies. Typically, the time period studied in reviews of strategic change is a year or less. This says little about strategy, which takes years to fully develop and implement. A popular alternative methodology, using interviews to retrospectively uncover key events, raises questions about accuracy. Events can be re-interpreted in a more favorable light—especially when the strategic leader is the research subject and interviewee. Interviews with knowledgeable others are needed to verify the leader’s recall of strategic changes. Over a long time period, people with the requisite knowledge are apt to leave, making verification difficult if not impossible. With public sector leaders having an average tenure of about two years, long term studies are rarely feasible. Even when one is fortunate enough to find stable leadership, collecting a stream of events as they unfold poses huge demands. The resulting time and cost have discouraged investigators from seeking process insights from actual events as they unfold.

The research approach used here overcomes several of these problems. First, we examined a change effort that has enjoyed long continuity of leadership. Second, we traced events by examining reports that were written in one-week time intervals spanning the entire twelve-year time period under study. This gives the leader’s perspective at the time of each report and allows one to trace evolution. Weekly reports of the SL to the Governor, and the Governor’s responses, make up the key database. More than 12 years of records and documents were available for study. In addition, we have access to
documents such as internal reports that came from top management team meetings and retreats. Also, we have 12 years of usually monthly interviews of two to three hours of duration with the SL. These interviews elaborate on current strategic challenges including the downsizing initiatives. These resources document the evolution of downsizing initiatives and their outcomes, showing the transition of one kind of downsizing effort to another (such as moving from facility closings to mergers) and the forces that were managed along the way. Finally, the SL reviewed the results, certifying that the actions and outcomes square with his recall.

Each downsizing initiative in the weekly reports was logged and classified by independent raters. From this, the key initiatives were uncovered, classified and labeled. The key downsizing initiatives were identified as closures, mergers or transfers. A closure ended a hospital’s existence. Resources and some staff were absorbed by the community mental health system, and the hospital physical plant closed--often sold to generate more funds. A transfer moved treatment staff and facilities, and the corresponding budget lines, to another agency. A merger combined two or more hospitals administratively, keeping treatment sites intact but reducing overhead. For each downsizing initiative, the actions taken were coded by number of reports (an indicator of intensity). See Nutt and Hogan (2003) for details.

The Mental Health System

Shifting hospital resources to help fund community care in Ohio required a radical downsizing of hospital-treatment capacity. Ohio’s original 17 hospitals (with over 3,000 beds in 1988) were shrunk to five hospitals, with nine clinical sites and about 1,100 beds. Individuals with mental illness who formerly might have been served in hospital settings were usually cared for in communities. The services were managed by community mental health boards, not the state. In total, hospital costs were reduced by over $150 million annually from the costs that would have been incurred without downsizing. This required hospital closures, unit/ward closures, layoffs and other measures. Staffing was reduced about 60 percent, from over 5,000 to just over 2,000 employees.

When the SL arrived in 1991 (after the legislation had been enacted, but in the earliest stages of implementation) strategic plans were incomplete. Savings from closures had been positioned as a solution to meeting community care challenges, and indeed closures of hospitals had become a goal itself in some quarters. The future role of the hospitals, quality of care in the remaining facilities, long term budget implications, alternatives for employees, and potential unintended consequences had been given little standing. Indeed, the scenarios for change had been developed in a more favorable budget climate and in a different gubernatorial administration. The recession of 1991-1992 reduced budgetary growth to levels below inflation, making it impossible to achieve the three fiscal goals identified for the reform legislation: fund community services for formerly institutionalized individuals, reallocate resources to provide equitable levels of community care statewide, and continue to run downsized institutions. In this environment, the pressure was to accelerate downsizing and closures to “maintain the momentum of change.” Pressure from constituents to “close a hospital” grew. For various reasons, at this time the SL actually slowed the pace of staff downsizing, believing that the pace of reductions threatened the quality of hospital care, and that the need to sustain funding for mental health through the reform process had not been accepted by elected officials.

When the pressure had built to a point where change was possible, a group of shareholders was convened to evaluate “inpatient futures”—what community care approaches would have to be developed, what the residual role of inpatient care would be, and what approaches could balance layoffs with new opportunities for displaced staff. This process brought together the “usual suspects” in Ohio mental health policy debates: the state, the county boards, community providers, and consumer and family advocates. But the usual group was asked to address a novel problem: the unintended consequences and implementation strategies for policies they had long supported.
The product of the statewide “inpatient futures” process was agreement on broad principles and the need to apply these principles in a regional planning approach. The regional planning would involve shareholders around each hospital. They would have to develop a plan that would balance essential needs—minimal appropriate hospital care, clearly planned expansions of community alternatives, meeting cost control guidelines, and considering impact on hospital staff. Some hospital capacity would be sustained statewide, and the savings from downsizing would be allocated to community care. Worries about the adequacy of community treatment would be dispelled by plans to expand community care, and employee and union concerns about lost jobs would be partly allayed. And the burden for identifying hospitals to be closed would be shifted to the involved parties. (Not surprisingly, while many shareholders talked in their own company about closing many hospitals, only one of twelve regional planning bodies explicitly proposed closure of “their” institution—with the assurance of continued employment for many of the hospital’s staff. A counterbalancing vision of the future was constructed.)

The “inpatient futures” approach balanced interests and ensured movement forward while leaving closure planning to regional participants. (Perhaps also not surprisingly, faced with the mandate to balance access to both hospital and community care with efficiency and quality, several of the regional groups were simply not able to produce a wholly acceptable plan. In several cases, they did not recommend closure of facilities that would clearly become too inefficient to be sustained. But this process clearly advanced shared ownership of the multiple, conflicting goals of downsizing.) The regional planning process moved the focus of change to the local level. With the basis for change defined, we will document the actual downsizing effort, searching for keys to success.

**Downsizing Efforts in Ohio**

Review of the weekly reports to the Governor yielded 193 downsizing initiatives in the 1991 to 2002 time period. The initiatives were consolidated into three types--transfers, mergers and closures. **Closures** shut down hospitals. The funds were sent to county boards to underwrite the cost of community treatment, with the understanding that a portion of these funds would be used to hire qualified hospital staff—in their state positions—in a community treatment role. The boards were reluctant to accept a wholesale transfer for state employees to the community treatment system, but the regional planning process—which was designed to include hospital employees and unions—had created acceptance of employing a portion of direct care staff in community care programs termed “state operated services.”

**Mergers** combined facilities administratively, preserving treatment staff while consolidating administrative and support services. The aim was to increase efficiency and focus resources on clinical care for the emerging mission of treating acutely ill patients and people with court-ordered treatment. Mergers also allowed ODMH to maintain hospital sites around Ohio, while simultaneously controlling costs. Having sites in many communities would facilitate access to care, and perhaps sustain a broader base of legislative support. The transfer of a dedicated hospital and other staff to the correctional system protected mental health treatment capacity by shifting staff and facilities to another agency with mental illness treatment responsibilities, specifically the Department of Rehabilitation and Corrections (DRC).

The “inpatient futures” process at a statewide and regional level led to a slow and deliberate process for the closures. Facilities were closed in 1993, 1995, 1996 and 1997. The pacing allowed for careful control of the process. Closures set the stage for a large reallocation of resources. On the other hand, fewer resources were transferred through the mergers and consolidations that followed. The measured pacing of closures, combined with a simultaneous emphasis on improving hospital quality and preserving multiple sites, salvaged the most important core competencies for the hospital system. The emphasis on mergers, quality, and associated reengineering activities allowed the staff/patient ratio and professional mix of positions in the remaining hospitals to be improved during downsizing. Over 50
percent of the hospital staff positions were eliminated, while about 25 percent of these were transferred into community care systems.

The Closures

Six of the 17 hospitals were closed. The first closure took place at Rollman Psychiatric Hospital in Cincinnati in 1991, carried out by the SL’s predecessor. The closure was abrupt, announced and managed from headquarters, with some staff and patients moved to the remaining adult hospital in Cincinnati and other staff laid off. The Rollman closure was administratively successful but a process and public relations disaster. The resulting furor suggested that closing a hospital and dumping staff to free up money prompts more problems than it resolves. The next five closures took place in the context of the statewide and regional Inpatient Futures plans. These plans shared pain and gain, and involved less loss of core capacity. They were completed without opposition by unions or legislators and received little press attention.

The new approach had emerged from the “inpatient futures” process, that was initiated only after pressure from shareholders had built up, and readiness to compromise was increased. The simplistic approach--“close hospitals, save money”--with all of its pressures on the agency, negative-sum tendencies and complexities that were not apparent, was replaced with a more complex approach that shifted responsibility locally. The new strategic approach forced shareholders to “own” difficult choices that balanced quality, appropriateness and cost factors.

Sagamore and Millcreek were children’s psychiatric institutions, treating the most difficult juveniles. Their staff and surrounding communities responded differently to the challenge of these choices. Sagamore’s staff believed they had created a unique hospital because community agencies statewide sent them their most difficult cases and they had considerable success with these juveniles. Sagamore had also developed an innovative community program: “WithOut Walls.” Unlike Sagamore, Millcreek neither viewed itself, nor was viewed by others, as a premier hospital and had a smaller regional client base. Millcreek had a history of management-worker conflict and had a more modest reputation in the area it served.

To respond to the challenge, Sagamore’s staff tried to reinvent itself. A plan was created to meet the new realities. A four-year planning effort set out to challenge conventional institutional logics, develop new community-oriented services, and preserve the hospital’s identity. Given the new orientation to community care, leadership posed questions about the kinds of skills and talents that the staff could sell that did not require the security and structure provided by a hospital’s four walls. The resulting plan, based on a needs assessment of community constituencies, included day treatment, acute care, residential services, sex offender treatment, and home based care--WithOut Walls. Sagamore’s leadership also argued for a possible change in status, under which the facility would become a private not-for-profit self sufficient entity, which they referred to as “Sagamore Inc.”

As Sagamore’s planning was unfolding, Boards had been developing their own network of nonprofit service providers. Their costs were lower because their salaries were lower, and these agencies were local--often under contract in a single county--and therefore easier for Boards to control. Sagamore could perhaps compete on quality, but not on local control. Simultaneously, the new community services led to a drop in the Sagamore inpatient census. Each decline in census drove up Sagamore’s “per diem”--their charges for services. As census fell, rates had to be increased. Boards made further reductions in the number of patients sent to Sagamore when rates were increased. A degenerative cycle resulted, making Sagamore less and less competitive as its rates spiraled upward. Two constituency groups, the Association of Boards of Mental Health and Alcohol and Drug Addiction and the Council of Mental Health Agencies, submitted a joint proposal to ODMH that called for the closing of Sagamore. This
formal request preceded the regional planning for adult inpatient futures. It was a manifesto to eliminate the hospital and distribute (“cash out”) the funds.

The SL saw this crisis as an opportunity to reframe the dynamics of system change. A simple closure would have accelerated change, while reinforcing some of the dynamics that had been so problematic in the Rollman closure. These included anger that would likely spill over to the press and the legislature, especially from a competent and committed staff, and loss of the value represented by these staff. The SL also perceived that handling this first “closure” right was necessary to send a message to all other hospital staff and to other constituents about the need for solid services to replace the facility, the value of the staff and the necessity of the state’s role as a back-up service provider.

Based on this, the SL sent messages proposing a middle ground: transforming or converting the hospital into community services, keeping the core clinical staff as state employees redirected to providing this care, and cashing out other hospital resources (generated by the layoff of support staff) for distribution to boards. This led to a tense series of negotiations that were finally resolved. A key element in the solution emerged from a closer reading of the new law. Cash resources moved from inpatient to community care under the law were distributed on a statewide basis by formula, not just to the counties which used the facility. However, the SL’s reading of the law was that personnel moved from hospital to community service could remain a local resource. This made “cashing out” less attractive to the local boards, and facilitated acceptance of Sagamore staff in community roles. About half of the Sagamore staff moved to newly created community programs for children; the facility was mothballed, and remaining staff took other jobs, accepted an early retirement buy-out plan, or were laid off. For all the controversy, the plan was ultimately implemented without public resistance or opposition.

During the four years that Sagamore was pounding the pavement, Millcreek was watching, waiting and worried. Millcreek’s census plummeted when two boards in the southwest region developed case management programs for children, setting up the same dynamic of rising per diem costs. Boards in the southwest region then started to pressure the SL to close the hospital. By the time these pressures came to a head, the precedent of Sagamore’s transition had been established. Boards understood that accepting Millcreek staff in their state positions would provide them with resources--albeit not cash--but that simply closing the hospital and “cashing out” would put funds into a pool for statewide distribution. Given precedent and economic self interest, things moved very quickly. However, before accepting an agreement to close Millcreek, the SL insisted that all boards statewide develop a plan to provide assured access for children, if needed, to inpatient care in the private sector, because Millcreek was the last state facility for children. This was accomplished.

These joint planning efforts transitioned both hospitals from inpatient treatment to community services such as respite and acute care, day treatment and education programs, home based assistance to families, and other community-type programming. At Sagamore, 60 of the 114 staff were transferred to work on community teams in partnership with the community system to care for Sagamore’s previous patient population. At Millcreek, the proportion of transfers was slightly higher. Unions and staff expressed appreciation for the efforts made to keep people employed in the treatment system. County boards had a difficult time accepting that staff would be assigned to them instead of being given dollars, but they accepted the bargain. And some state capacity was sustained during the transition.

The Transfers

The one transfer of a hospital within state government (Oakwood Forensic Center) was carried out through an alliance with the state Department of Rehabilitation and Correction (DRC). The Oakwood story began in the wake of the Lucasville prison riots. The behavior of prisoners during the riots raised
questions about the adequacy of funding of mental health services for prisoners and prompted a prison rights group to file what was called the “Dunn lawsuit” in federal court.

Psychiatric care for prisoners had already been a concern in the Ohio prison system, with over 2,000 inmates receiving some psychiatric care, and there was agreement that this was insufficient. Screening for mental illness was conducted by correctional staff, who referred inmates needing care to services provided by ODMH staff in the prisons. These staff provided counseling and psychiatric care in six prisons, and a special residential unit in three prisons. The Oakwood Forensic Center was run by ODMH as a free standing hospital dedicated to serving correctional inmates. These forensic services cost $12.6 million and were funded in the budget of ODMH. But the program was flawed and under-resourced, and subject to budget cuts in 1991-92. The split responsibility allowed some inmates to fall between the cracks, e.g. those with behavioral problems but not traditionally defined mental illness. The tension between “security” and “treatment” models impaired service delivery. The lawsuit was a wake-up call and a threat, but also an opportunity for improvement. The directors of DRC and DMH seized this opportunity to commence a review of care, and commissioned an audit of the program. Based on this audit, staff of both agencies were convened to develop a new, expanded, integrated model—one that could be fully managed by either agency (deferring the decision about control).

The joint planning, coupled with court negotiations, led to what has become known in corrections as “The Ohio Plan”—comprehensive mental health care within corrections, from screening to hospital care. Aside from the opportunity to improve correctional mental health care, ODMH faced a strategic challenge. Would its services and budget be lost to another agency? Could this become a “win-win” scenario?

The joint planning, after several tries, produced a plan that could theoretically have been administered by either DRC or DMH. Pragmatically, there was no choice; DRC would take responsibility, since the focus after the Lucasville riots was on “fixing the prisons,” not on expanding mental health. However, by agreeing to high standards of quality, the mental health mission could be preserved, offsetting any “win-lose” perception. The transfer of Oakwood from DMH to DRC (deferred a year after the transfer of other staff, because of its complexities) was an example. Written into the transfer agreement was a commitment to maintain Oakwood’s hospital accreditation. In the transfer, DMH also kept a skeleton staff of employees to plan discharges of mentally ill prisoners to community care.

In a strange way, the loss of DMH resources was an asset. Erosion of the DMH budget had become a rallying cry. People would notice that the budget had been reduced, but forget that this reduction was due to a transfer. It would strengthen the argument for additional resources.

A second transfer was a public-private partnership in the southern part of the state. When the SL arrived, the most financially problematic hospital in the system was politically the strongest. The Portsmouth Receiving Hospital operated as a freestanding facility with less than 30 beds but over 100 staff, creating excess administrative costs. However, the facility was located in the district of the multi-term Speaker of the House and the most powerful politician in the state. House Speaker Verne Riffe had blocked a planned closure of Portsmouth in the prior administration. Eventually, the SL got the Speaker to host a meeting in which he told the locals to “get together and do what the director wants.”

It was apparent that Portsmouth costs were unacceptable, but that closing the hospital was impossible. However the SL believed it would also be ill-advised; the area needed a small inpatient program given its remote location and the absence of private capacity. The excess costs of running the hospital were not due to staffing on the unit—they were a result of the high overhead costs needed to function as a hospital, including ancillary services (dietary, pharmacy) as well as administration. An ideal
solution might be a transfer of the hospital’s clinical staff and facility to a larger institution that could sustain the program but provide cheaper ancillary services.

One of the SL’s first actions was a “courtesy call” to visit the Speaker. The message was: “Mr. Speaker, that hospital is valuable. Good people work there. We need to preserve it. But the costs are killing us. I would like to work on alternative ways to run it to keep the key jobs, but cut the cost.” The Speaker indicated he would keep an open mind, but said “don’t expect me to do your work for you.”

The keys were adequate financing and finding a willing partner. Financing could be addressed via a legitimate reimbursement loophole. Medicaid will not pay for most inpatient care in psychiatric facilities such as the Portsmouth hospital, but will cover care in psychiatric units in general hospitals. Given this backdrop, the Lawrence County Medical Center emerged as a potential partner. This institution was very ambivalent, concerned about the labor implications of taking on state staff, and the perceived financing risks. But the Speaker was willing to use his influence to get them to the table to consider the transfer. After that, pulling off the deal was details and hard work.

The Portsmouth transfer was interesting because it typifies the difficulty of public sector downsizing: “do it but not in my area.” Stakeholders with influence such as legislators, other agency heads, union executive leadership, the local media, and mental health interest groups, mobilize at the first hint of a service reduction and oppose local services cuts, often irrespective of overall benefits to the system. Too often, the results are delays, excess costs, and eventually the inevitable closure, carried out amid conflict and experienced as a loss. To downsize, public leaders must anticipate and then manage attempts to protect local resources at the expense of broader benefits.

To foster an environment supportive of the Portsmouth transfer, the SL scripted encounters with interest groups. These encounters were used to build connections that fostered good will, and to solicit concerns that could reasonably be allayed. The SL orchestrated a few moments selectively (such as the Speaker communicating his interest to the Medical Center) and then stepped back to allow local movement.

Timing was critical in this scenario. After years of creating an environment that was more conducive to movement (e.g., pressure on hospital costs, the statewide inpatient futures process), the Speaker agreed to play a catalytic role. The careful scripting of events had other benefits as well. The Speaker appreciated the careful attention to a problem in his district. His support was necessary, but could only be achieved when trust had been increased, and the need for change had become more evident. But note the time delay between idea and action. The use and management of time as a resource is a neglected element of strategic leadership.

The Mergers

Closures and transfers of facilities accomplished much in terms of cost savings, while preserving some capacity through the use of staff in community settings and in inter-institutional partnerships. Between 1991 and 1995 (a period of statewide reduction in inpatient capacity, with only the Sagamore closure), hospital use was reduced by 1,180, while staffing declined by 1,350 (a ratio of 1.15 positions reduced for each closed bed). Between 1995 and 1997 when Millcreek, Fallswiew and Woodside closed, Oakwood was transferred to DRC and Portsmouth to Lawrence County Medical Center, hospital use declined by 400, but staffing by 1,100—a ratio of 2.75 positions for each closed bed.

Following this dramatic period, the overriding strategic problem was to strengthen and retain organizational capacity, while still reducing costs. The administrative merger of hospitals became one way to accomplish this.
Downsizing, even with closures, had resulted in small hospitals (thus, with relatively high overhead costs, and a too-high proportion of administrative costs). Unions appreciated that about 700 jobs had been saved through creation of community care (SOS) programs as well as the transfers of staff to DRC and Lawrence County. But they still bemoaned the high administrative costs associated with smaller facilities.

The mergers also were a way to compensate for the planned retirement of some hospital leaders, and to best use the leadership skills of the strongest hospital managers and physicians. The mergers were planned collaboratively by the respective staffs of the hospitals, with frequent opportunities to present and refine plans with the DMH statewide team. The creation of a Deputy Director position responsible for all hospital services, and recruitment of an experienced public hospital administrator from another state to fill this position, facilitated this.

The mergers proceeded sequentially, with the opportunity to debrief and learn from each experience. Cleveland Psychiatric Institute and the Northfield facility merged in 1996, to become Northcoast, followed that year by Cambridge and Athens. Columbus and Dayton merged in 1998, with Toledo joining Northcoast a year later. The mergers had common elements (a single CEO and Medical Director for the merged hospitals, providing continued service opportunities for key staff) but were also opportunistic. Seeking consistency in plans was a secondary goal to feasibility and common sense. The mergers were celebrated to emphasize efficiency, focusing resources on clinical services, collaboration and success. From 1997 to 2003, the mergers (along with reengineering projects not discussed here) produced a reduction of 460 staff positions during a period when hospital utilization dropped by 250—a ratio of 1.84 positions reduced for each bed closed. The mergers achieved efficiencies while preserving the maximum number of service locations for access to care and to sustain political support.

**Discussion**

A key to the successful downsizing discussed here is timing. Interviews and the weekly reports suggest that acceptance occurs only after people rule out other options to which they are clinging. As the SL noted, when each change (closure, transfer, merger) was finally announced, participants were relieved and grateful to “get it over with.” The tension of “not knowing for sure” had become greater than the tension of change. When this point was reached, there were no strong objections from any of the key internal players. Stretching out the action over time also helped external shareholders to accept a modified vision—one that called for a hospital system that was smaller but still strong in morale, quality and statewide accessibility. The time and processes that had been underway allowed them to see that the benefits of change were being achieved (albeit at a perhaps slower rate), but also that there were other pressures and perspectives to be considered (e.g., the concerns of hospital staffers—a largely ignored group when the legislative change was considered, but a group whose participation in planning changed the dynamics and altered the possibilities).

A comparison of the downsizing approach used in Ohio with the prescriptions offered by Cameron (1981; 1995) validates some of his generalizations for successful downsizing. Cameron suggests ways to avoid the “dirty dozen” bad outcomes of downsizing. Cameron calls for involvement and participation, accessible missionary leadership, broad information sharing, finding and sharing slack resources, teams that carry out the planning for downsizing, and the creation of equitable incentives. The Ohio experience found that involvement and participation were substantial, although often uneven. At Sagamore, the long staff participation in seeking alternatives seemed to waste effort and cause frustration, but it did give buy-in time, and preserve staff cohesion and commitment. This took away the specter of unilateral action by the SL and helped the hospital staff accept change. At the institutional level, where policy was being executed, broad participation was essential, particularly the participation of the hospitals’ TMTs (top management teams) in the inpatient futures effort that guided downsizing. This
participation proved to be a key ingredient in Ohio’s success. And the “bottom up” planning for mergers produced better-accepted results than a top down approach. Cameron’s concept of “accessible missionary leadership” fits with how the SL selectively used participation in events to frame tasks, and either accelerate or slow down action.

Broad information sharing did seem essential in these downsizing efforts. However, information sharing was helpful but not sufficient to realize change. The forums in which information was offered proved to be crucial in Ohio’s success story. The SL both scripted encounters and took advantage of opportunities to dialogue about direction and to hear objections. The careful selection of forums where one can engage in this give-and-take seems essential. And clearly, timing is everything. The right time to share key information is when it can be used to advance the game. When people demand information, it creates an opportunity to frame the story.

Public agencies facing large-scale downsizing seldom have slack resources. Even if such resources are available, there can be intense pressure to return them to the general fund instead of keeping them. If one needs funds, the accepted path is a public budgeting process. But sustaining capacity and some elements of slack resources (e.g., the synergies of merged administrations) can be key to success. There is a tension between the demands of successful management and of the political process.

Teams were widely used in the Ohio success story, but teams were often employed after the initial strategic framing of change. Only then was cooperative planning effective. Incentives were offered, but incentives are more apt to work in hierarchical environments in which one party has power over the other. The Ohio environment was decentralized. When there is countervailing power, haggling over incentives can be a diversion and prompt the use of power to resist influence attempts. Building trust that all parties will be treated fairly is important but perceived fairness will not limit conflict when parties are motivated by different aims.

The prescriptions for “managed de-development” (Nutt, 2001) attempt to preserve core competencies during the downsizing/change process. The guidelines for successful downsizing call on leaders to guide the downsizing effort with a vision of a new identity for the downsized system, and to differentiate then integrate preserved competencies (e.g., mergers following closures). It is also crucial to accommodate those to be affected and often to dramatically slow the pace of change.

The new vision offers a new, hopeful “identity” for a downsized system that sustains the essential competencies to be preserved. The new identity provides a target that beckons, not an image of loss and decay. New reality can preserve what is best about an organization—a core that will not be damaged. The new identity highlights the core competencies to be preserved while building a simpler, less complex system. Note how such a vision was central to the success of Ohio’s downsizing. The downsized patient care capacities were replaced by a vision of quality and a strengthened “safety net” mission. The SL pursued quality by focusing on it, and by positioning improved quality and treatment capacity as the core target of mergers. The reengineered hospitals and their programs and staff became the building blocks for the system’s new identity. The best CEOs and medical leadership assumed responsibility for the five surviving hospitals.

State Operated Services (SOS, later “Community Support Network”) was established to soften the burden of downsizing, and keep good staff who would otherwise be lost (sustaining a core competency). It also broadened the footprint or market basket of hospitals, and highlighted a distinctive competence of the downsized organization: caring for the most needy.

Managed de-development also calls for finding things that can be trimmed without losing core competencies, so differentiation leads integration. In the closures, mergers and transfers the first step was
to inventory resources. This insured that key institutions, programs, and people were identified and targeted for preservation. Jobs were sustained for key executives whose energy and performance was necessary to manage successful closures and then pick up on new opportunities. Integration took place as shifts were made to reposition the programs and people in the surviving institutions.

In deploying strategy, accommodation precedes assimilation. Accommodation offers an initial softer move. Before the survivors were assimilated, those being let go were given options such as SOS, outplacement, retraining, relocation assistance, early retirements, buyouts, counseling, and the like. Taking care of people in a deliberate and thoughtful manner sends assurances to stabilize the system. This is particularly important in labor-intensive systems such as ODMH. Assimilation must wait until this plays out. The SL followed much of this pattern by going to great lengths to hold off closings and layoffs until all imaginable options had been played out. This was a major factor in avoiding union difficulties. The SL was supported by union leadership throughout the downsizing effort. When the closures, mergers and transfers finally came, each proceeded without protest.

Pace is crucially important. Events during downsizing can arrive at a rate that exceeds people’s capacity to absorb them. Reasons are seldom clear to stakeholders, particularly in organizations with many far-flung external and internal constituencies such as ODMH. Also, a slow pace makes it easier to find and preserve core competencies such as key staff. This affords the leader the time to find the connections with other components and to sever or block them, as in employment assurances for key people. The SL in the Ohio downsizing put brakes on the pace of change as soon as he arrived. The disastrous closing of Rollman signaled the need to go slow. But the pacing was also dictated by the SL’s intuitive feel for implementation concerns. The SL waited until people saw the impending change as inevitable and actually welcomed it.

Conclusions

Crucial steps in the Ohio in downsizing were closely aligned with the propositions found in “managed de-development”. A key was to articulate a new identity for the downsized system that allowed stakeholders to visualize new and valued aims as institutional capacity was being reduced. Also important is the careful differentiation of core competencies to be preserved in the new identity. To implement, it seems essential to accommodate human resources before attempts are made to assimilate survivors (Noer, 1993). Success also seems to hinge on dramatically slowing the pace of change, and waiting until the time is right. This is signaled by key people asking for a change to occur. The Ohio experience signals that downsizing can be successfully managed in a public sector environment. Leadership, timing and a focus on sustaining core capacities are essential to success.

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**Paper Presentations of the Research to Date**

Epidemiological surveys indicate that anxiety disorders are among the most prevalent of all mental disorders in the United States (Weissman, Klerman, Markowitz & Ouellette, 1989). Extrapolating from epidemiological studies, it may be conservatively estimated that 25 percent of the population of Ohio will suffer from clinically significant anxiety at some point in their lives, with a 12-month prevalence rate of approximately 15 percent (Kessler et al., 1994).

Anxiety pathology is not only common but tends to be chronic and can be extremely debilitating. Forty to 60 percent of individuals with an anxiety disorder diagnosis report moderate to severe occupational role dysfunction and disability (Ormel et al., 1994). Anxiety disorders frequently lead to other adverse outcomes including increased health care utilization, increased risk for cardiovascular disease, substance abuse, antisocial behaviors and suicide attempts. In addition to the immense suffering created by anxiety pathology, these disorders create a considerable public expense that includes treatment costs, lost work time and increased utilization of non-psychiatric medical services. Annual costs easily exceed several thousand dollars per anxiety patient, suggesting that over 33 million dollars are spent or lost each year in Ohio in relation to treatment and occupational disability.

Billions of dollars are spent each year on secondary and tertiary prevention (i.e., treatment) of anxiety pathology in the United States (McNally, 1994). On the other hand, relatively little effort has been made in relation to the primary prevention of these conditions. Despite the fact that primary prevention is frequently touted as an important endeavor that has obvious public health benefits, such efforts are exceedingly rare. There are many reasons for the lack of primary prevention efforts but chief among them is an absence of two essential ingredients for a primary prevention study: 1) the failure to identify critical risk factors involved in the pathogenesis of the disorder of interest, and 2) an effective intervention that reduces the risk factor.

Our research laboratory has been involved in two related lines of research that appear to be extremely promising in relation to the primary prevention of anxiety pathology. One line of research is in the area of risk factor identification. In recent years, significant advances have been made in the identification of psychological risk factors for anxiety pathology. One risk factor in particular, termed anxiety sensitivity (AS), has been implicated in the pathogenesis of a number of psychiatric conditions including alcohol and substance abuse, major depression, panic disorder, social phobia and posttraumatic stress disorder (Taylor, in press). AS refers to a set of beliefs about the negative consequences of experiencing physiological arousal. For example, individuals with high AS may perceive rapid heart beats as indicating an impending heart attack whereas someone with low AS would perceive rapid heart beats as merely unpleasant.

Laboratory studies and prospective naturalistic studies have provided converging evidence that individuals possessing high levels of AS are at increased risk for the development of these pathologies. The relationship between AS and these various conditions may be due to direct effects, mediational effects or both. For example, evidence supports the idea that AS directly influences the development of mood pathology and substance abuse. There is also evidence to suggest that AS results in anxiety
pathology which serves as a gateway for the development of mood disorders and substance abuse. Findings from this literature are clear in suggesting that AS is an important risk factor for psychopathology.

Advances in the delineation of psychological risk factors have been complemented by equally encouraging progress in psychological treatment of pathological anxiety. Controlled clinical trials have established the short-term efficacy of pharmacological treatments as well as skill-based psychosocial treatment (termed cognitive-behavioral treatment) for pathological anxiety conditions. Although the success rates of both pharmacological and cognitive behavioral treatments are substantial, it is estimated that only 20 percent of anxiety sufferers receive treatment (Barlow, 1988). One recently reported and relevant treatment outcome finding is that changes in AS appear to be responsible for treatment response. In other words, it appears that AS mediates the relationship between treatment and recovery (Schmidt, Staab, Trakowski, & Sammons, 1997). Moreover, these findings suggest that a specific type of intervention (i.e., cognitive-behavioral treatment) can dramatically reduce this risk factor (AS) in clinical populations.

In sum, pathological anxiety is extremely prevalent, debilitating, and often leads to secondary psychopathology. Recent successful identification of risk factors for anxiety and related pathologies suggests that reduction in this risk will prevent considerable suffering as well as significantly reduce expenses to public mental health systems.

The next logical step in this research agenda is to extrapolate knowledge derived from basic research and treatment outcome studies to develop effective primary prevention intervention programs in hopes of reducing risk among high risk populations. To accomplish this, longitudinal intervention studies of non-clinical “at risk” samples are needed.

Specific aims of this project were: 1) to deliver a risk reduction or primary prevention intervention (compared to an education control condition) to a sample of high-risk individuals who have not developed clinically significant psychopathology, and 2) to prospectively evaluate the effects of this intervention on the incidence of psychopathology during a 24-month follow-up period. The primary data of interest involved a comparison of morbidity (e.g., clinical diagnoses) during the follow-up period between treatment conditions. Comparisons of outcomes were also measured along a broader spectrum of symptoms (e.g., level of distress and impairment in school/work, level of depression, alcohol use). The main study aims and hypotheses are delineated below:

Aim (1). Determine that a primary prevention intervention is effective in reducing the identified risk in a “high-risk” youth population. It is hypothesized that the treatment intervention will significantly reduce the purported risk factor (AS).

Aim (2). Evaluate the efficacy of the intervention in the prevention of psychopathology. It is hypothesized that reduction in risk will yield lower incidence of pathology, impairment and disability in the treated cohort.

There are very few primary prevention studies and only a handful of prevention studies targeting anxiety pathology. The study is unique in several respects including: 1) its focus on one specific risk factor (i.e., anxiety sensitivity) that has been recently implicated in the pathogenesis of anxiety and related pathologies, and 2) its focus on “at-risk” young adults (versus children) entering a critical age for the development of anxiety pathology. If the study hypotheses are confirmed, the findings will have wide reaching implications for the prevention of a considerable public health problem.
Overview of Study Design and Methods

This primary prevention study included both an experimental and prospective design. “At-risk” participants (i.e., those with high anxiety sensitivity) with no history of anxiety disorders or other major psychiatric illness were randomly assigned to a risk reduction or control condition and followed for 24 months. The primary data of interest involved the prediction of morbidity (e.g., psychiatric diagnoses) during the follow-up period based on experimental condition. However, outcomes were also conceptualized along a broad continuum of symptoms to increase the power of the design.

Prevention Intervention Description

The prevention intervention is a brief, psychoeducational presentation delivered using a computer followed by several minutes with a research assistant to clarify information and discuss follow-up procedures. The presentation is designed and delivered using Powerpoint. The presentation includes text, audio, and graphics and lasts approximately 40 minutes. The content of the presentation distills some of the core lessons discussed in CBT interventions for anxiety disorders. Essentially, the presentation discusses the nature and causes of stress and anxiety symptoms. It outlines the symptoms that people should pay attention to and symptoms that people do not need to worry about because they are ordinary stress symptoms. The presentation also describes interoceptive exposure. This procedure is designed to allow people to get used to unpleasant bodily sensations. The research assistant spends a few minutes further explaining interoceptive exposure along with the exercises we recommend that people conduct (e.g., hyperventilation). The overall goal of the presentation is to reduce the fear associated with unpleasant, stress-related symptoms.

Results

This report expands on the preliminary reports (Schmidt & Vasey, 2000a, 2000b), and provides data on the final sample throughout the follow-up period. The demographic makeup of the sample at entry was as follows: by design the sample was relative young (age $M = 19.4$, $SD = 4.2$) with the majority being female (61%). This demographic make-up was consistent with the targeted recruitment goals of the study. The sample was also primarily White (73%) with 10 percent African-American, nine percent Asian-American, and two percent Hispanic. The majority of participants were in their first year of college (56%) and a quarter were currently employed (25%).

The final sample included an initial assessment of 406 participants randomized to treatment condition. Of those randomized, approximately 80 percent completed a one-year follow-up evaluation ($n = 320$) and approximately 50 percent completed a two-year follow-up evaluation ($n = 181$). This level of attrition is not unusual for this type of sample. The total $n$ for various analyses will vary to some degree depending on missing data. Those participants dropping out of the study did not differ from completers in terms of baseline demographics or clinical variables ($ps > .10$).

Baseline Assessment Data

The baseline assessment indicated a lifetime prevalence of 7.1 percent in the sample. This is somewhat lower than epidemiological studies but is likely due to the fact that this sample was selected to be free from any current Axis I disorder. The most prevalent lifetime diagnoses in this sample included specific phobia ($n = 12$) and major depression ($n = 8$). There were several other mood disorder diagnoses ($n = 3$), substance use/abuse diagnoses ($n = 3$), and anxiety disorders ($n = 2$).

Data from the global self-report measures suggest that the sample possessed modestly higher risk (ASI score: $M = 17.0$, $SD = 8.8$) based on typical scores for a nonclinical community sample. Again, this was in line with the intended selection of an at-risk group. In addition, scores of measures of anxiety and...
depression symptoms indicated relatively little pathology (BAI \( M = 7.31, SD = 7.8 \); BDI \( M = 5.47, SD = 5.18 \)) and this was consistent with the clinician rating of global clinical impressions (CGI \( M = 1.83, SD = 0.64 \)).

**Effects of the Intervention of Cognitive Risk**

Baseline data indicated that random assignment was successful. There were no demographic differences across these groups. There were also no group differences in level of psychopathology across the treatment and control groups. Importantly, there were also no differences on the cognitive risk variable (ASI).

To evaluate whether the intervention affected the proposed cognitive risk variable (ASI), regression analyses were used with the pretreatment level used as the covariate. These analyses indicated that the intervention had the desired affect with ASI levels being significantly reduced in the treated group (standardized beta = -2.21, \( t = -4.42, p < .0001 \)). The post intervention means for the groups are shown in Table 1. Note that the effects for the intervention were primarily on the physical fears and cognitive fears subscales. To quantify the level of change, it appears that the intervention condition produced an approximate reduction of 30 percent in overall AS scores. It should be noted that this level of reduction is fairly substantial given the relative brevity of the procedure.

<table>
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<tr>
<td>ASI - Social</td>
<td>4.45</td>
<td>4.61</td>
<td>0.17</td>
</tr>
</tbody>
</table>

Other cognitive variables that were not targeted in the intervention were also evaluated post-intervention (ISI – a measure of fears relating to injury; FNE – a measure of interpersonal concerns). Similar analyses indicated that the intervention was specific to anxiety sensitivity (ASI), as reductions in the other cognitive domains (ISI, FNE) did not occur for those in the treatment condition. This pattern of findings was also consistent with expectation.

**Descriptive Data during the Follow-up Period**

At the 12-month follow-up assessment period (FU1), there was an 8.5 percent incidence of Axis 1 conditions and at 24 months (FU2) the incidence was comparable (7.5%). At FU1, the most prevalent primary diagnosis was alcohol abuse/dependence followed by specific phobia and social anxiety disorder. There were also several cases of major depression and a few other anxiety and mood diagnoses. At FU2, the most common primary diagnosis was social anxiety disorder followed by major depression and panic disorder. There was also one diagnosis of alcohol abuse and one of anxiety due to a general medical condition diagnosis.

**Effects of Intervention on the Incidence of Psychopathology during Follow-up**

To increase power in the analyses, FU incidence of diagnoses were combined across the entire FU period. Logistic regression analyses were used to predict whether condition (treatment versus control) was predictive of the development of psychopathology during the FU period. Results from this analysis
suggest a trend in the expected direction with the treated group showing lower rates of diagnoses (standardized beta = -.67, Wald chi-square = 2.32, p = .12). These findings are summarized in Figure 1. Specifically, there were a total of 18 new diagnoses in the control group and eight new diagnoses in the treatment group. Due to the relatively low number of new cases, this analysis was underpowered. However, in our opinion this trend is still worth noting since a larger sample would likely have produced a statistically significant effect.

Figure 1. Rates of new diagnoses across Treatment Condition.

It is also worth highlighting that the differential rates of new diagnoses across groups appear to be most salient in terms of rates of alcohol and substance abuse diagnoses. Specifically, there were seven cases of alcohol or cannabis abuse in the control condition and only two cases in the treatment condition. In the case of anxiety disorder diagnoses, there were nine new cases in the control condition and five in the treatment condition.

The effects of the intervention on global symptoms (anxiety, depression, overall clinical status) were also examined with linear regression analyses using condition as a predictor of FU symptoms while controlling for pre-treatment symptom scores. Similar to the findings with diagnostic rates, there were no significant effects of condition on symptoms although there were some nonsignificant trends in the expected direction. This is not particularly surprising given that this is a large nonclinical sample with relatively low levels of symptoms (e.g., BAI scores in the treated group dropped from a mean around 7 at baseline to a mean of 5 at 24-mo FU whereas the untreated group showed an overall reduction of 1 point on the BAI).

**Discussion**

Overall, there was support for the study hypotheses. First, it appears that a relatively brief intervention can lead to significant reductions in a cognitive risk factor. Second, those receiving the risk reduction intervention appear to have a somewhat decreased risk for the development of psychopathology during a follow-up interval of approximately two years. In the present study, this particular effect was not statistically significant; however, this project was intended as a demonstration. It appears there is sufficient evidence to recommend: 1) a similar study could be undertaken with a larger sample, and 2) AS reduction interventions could be provided to adolescents and young adults to reduce the impact of this risk factor on the development of psychopathology.

Limitations of the present study should be noted. First, it is obvious that the study was somewhat underpowered to definitely answer the primary study question. A replication should consider the utilization of a high-risk group that shows even greater risk than those followed in the present study (e.g., include participants with higher ASI levels and/or a family history of psychopathology) wherein there is the likelihood of a high incidence of psychopathology during the follow-up interval. Second, attrition
during the follow-up phase was high, particularly for the 24-month period. Although this level of attrition, as noted above, is not unusual for this type of sample, and there were no differences between drop-outs and completers at baseline, we cannot rule out the possibility that attrition may have obscured certain effects. Third, the length of the follow-up interval is relatively brief in the context of the development of psychopathology. If this sample had been followed for a longer interval (giving more opportunity for the development of Axis I problems), we may have seen even greater group differences.

In sum, this study represented a unique and important opportunity to greatly increase our knowledge regarding primary prevention of psychopathology. As we have noted, this type of study is rare but it is likely to be highly rewarding in terms of the advances it will provide us in both the short term and the long term. In the short term, we have acquired knowledge regarding the efficacy of the primary prevention intervention as well as new knowledge in terms of how to increase the preventive efficacy of similar interventions.

We hope that findings from this study will benefit the community in several different ways. In an indirect fashion, treated participants have shown a reduction in the incidence of Axis I disorders. In the long run, this should translate into reductions in non-psychiatric and psychiatric medical expenses as well as reductions in social and occupational disability. In the future, we hope that this intervention will be made readily available so that anyone interested can receive this intervention. This computer-driven intervention can be readily disseminated to consumers receiving services in the Ohio public mental health system. One method of dissemination would be to make this intervention program available to current consumers who might benefit from it (in terms of reduction of anxiety-related pathology and prevention of co-occurring anxiety pathology). Relatively minimal knowledge of the program and the availability of a computer for consumer use are really the only elements necessary for establishing its use in a clinic.

However, an even more powerful use of this tool would be to allow access to the family members (e.g., children) of these consumers. For example, a computer at the clinic could be made available to family members who have arrived with the consumer while they are waiting for the him/her to complete a scheduled visit. Another method of dissemination is to make this prevention program available to the school system. Ideally, we want to have a primary prevention program intervene prior to the development of mental illness. Delivery of this program in the school system seems to be an ideal method for reduction of risk in the general public.

As researchers, the next step that we intend to undertake is to apply to NIH for funding of a larger, more definitive study that will take into account some of the shortcomings of the current study and build on its strengths. It is important to understand that the present study is only one building block in the future of effective, primary prevention interventions for public health problems.

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MEASURING PSYCHOLOGICAL DISTRESS IN SOMALI REFUGEES

The Ohio State University
Department of Family Medicine

Kent P. Schirian, PhD Patricia M. Schirian, PhD

Thousands of Somali immigrants have settled in several major cities in the U.S., including Columbus, Ohio. Many have suffered psychological distress as a result of their experiences in the wars in Somalia, in relocation camps, and in attempting to rebuild their lives in the U.S. At the current time there is no standard scale for assessing psychological distress among these people that is both culturally sensitive and practical to administer in the busy urban clinic environment where these clients are customarily treated.

Columbus—the site of this study—has one of the largest Somali communities in the U.S. Current estimates by Somali community leaders place the size of the Columbus Somali population between 20,000 and 25,000. The arrival of the Somalis has presented health care providers with several challenges:

1) Many of the newcomers have serious physical health conditions such as untreated or incompletely treated tuberculosis, intestinal parasites, or medical complications from the “female circumcision” experienced in the past by up to 95 percent of the adult females.

2) Many of the Somalis have marked levels of psychological distress and/or posttraumatic stress disorder (PTSD) that have gone largely undiagnosed and untreated.

3) The majority of Somalis speak very little or no English. A closely related factor is that most Somalis read neither Somali nor English. There was, in fact, no written Somali language until the mid-1970s. This means that much of the interaction between Somalis and local health care professionals must be mediated through a bilingual Somali/English interpreter. By and large these interpreters are themselves Somali refugees who have a somewhat better command of English than is typical in the Somali community at large (Schirian et al., 2002).

4) There is a large culture gap between Americans and Somalis. This leads to a general lack of understanding between the groups on the meaning of health, the causes of illness, the importance of preventive health practices, and the access to and course of medical diagnosis and treatment.

5) In considering psychological distress in particular, it is important to know that there are no directly comparable concepts or linguistic referents in the Somali language such as anxiety, depression, or personality disorders. In short, Somalis tend to see people who are experiencing psychological distress as simply “crazy” with few avenues for cure.

Given these challenges, it is important to be able to make adequate diagnoses and treatment provisions to newcomer groups such as the Somalis. Thus, a valid and reliable instrument for assessing the presence and degree of psychological distress experienced by these individuals is required. For the Somalis, no such standard instrument exists and no information is available in the professional literature about the applicability to Somalis of standard measure that are used with the general U.S. population.

Purpose of the Study

The purpose of this study is to develop and test a culturally appropriate measure of psychological distress in Somali refugees that can be used effectively and efficiently in mental and physical health care screenings.
Methodology Overview—A Multimethod Approach

Preliminary Field Work & Consultation. Prior to submitting the proposal to ODMH we spent two and a half years conducting field research with Somali refugees in Columbus and with the professionals who deal with them in the health care and related services settings. Our goal was to become generally familiar with Somali culture, values, practices, and normative behaviors. Also, we became familiar with the issues and challenges that Somalis face in becoming incorporated into the mainstream life of the Columbus community. We conferred with several physicians, nurses, pharmacists and health care Somali/English interpreters who regularly deal with Somali patients. We discussed issues in assessing psychological distress in Somalis with members of the Advisory Board and staff of the OSU CARES Somali Language Project at two of their meetings. The OSU CARES project has translated a large amount of health information into a series of flyers distributed to both Somali patients and to health care centers serving Somalis. Finally, we consulted with Robert C. Smith, MD, ScM, of the Michigan State University—a specialist in physician/patient interaction and communication. For several years he has served as consultant with the Harvard Program in Refugee Trauma, Harvard School of Public Health.

As a result of this work, we concluded that the initial avenue for approaching the construction of a scale to assess psychological distress in these clients was to use items that ask about somatic complaints and abilities to perform the normal tasks of daily living—rather than asking questions relating to one’s affect or “feelings”. Indeed, Garcia-Peltoniemi (1991b) has argued that refugees are highly likely to present with somatic rather than emotional or psychological complaints for several reasons. First, the cultural backgrounds of most refugees discourage direct expression of feelings. Second, the culturally-shaped health beliefs tend to favor psychosomatic unity. Third, there is a lack of familiarity with the concepts of mental health. Finally, the language barrier prevents, among other things, communication in more abstract psychological terms.

Quantitative Methods: Scale Development, Testing & Analysis. This project does not test theoretical hypotheses, but, rather, lays the foundation for future studies that may explore the types of causal models of psychological distress commonly used in studies of the U.S. population. In addition, this study aims to provide clinicians who work with Somali clients with a valid, reliable, and culturally appropriate measure of psychological distress.

Test Instrument Development. As is customary in scale development, research literature related to measuring psychological distress was explored in order to determine what instruments already exist that could be incorporated/adapted to meet the criteria discussed above. The scales that were reviewed included the Hopkins Symptom Checklist, the Harvard Trauma Scale, scales developed by New York University’s Department of Psychiatry, the Center for Epidemiological Studies Depression Scale (CES-D), and the problem checklist assembled by the State of Minnesota’s Department of Health’s Refugee Health Program. As expected, there was considerable overlap among these in the sense that they included a number of the same or very similar items.

The problem checklist from the Minnesota Refugee Health Program proved to be the most applicable for our needs. It contained a total of 46 items grouped under five headings: (1) sleep problems, (2) appetite problems, (3) problems with your nerves, (4) problems with your mood, and (5) problems with the way you are thinking or behaving. The somatic items suggested by our consultants during the ethnographic phase of this study were combined with the Minnesota items into an instrument we have called the General Somatic Symptoms Instrument (GSSI).

Instrument Testing. The result of the item selection process is a 57-item symptoms assessment, with an additional nine demographic items at the end. As noted earlier, most of the Somali refugees who are participating in the study do not speak or read English. Accordingly, the instrument has been
translated and back-translated into Somali using two Somali-English health-care translators. Also, as noted earlier, many of the refugees do not read Somali, so the test instrument was administered orally by a Somali/English translator who has had extensive experience as a medical interpreter in the Columbus Neighborhood Health Centers that serve a large number of the Somali community members in Columbus.

The sample for instrument testing consists of 100 adult Somali clients (21 years of age or older) who obtain their health care at the Columbus Neighborhood Health Centers (CNHC) and consent to participate in the study. CNHC drew a random sample of 100 Somali names and addresses, and the Somali/English interpreter called potential participants, explained the study, and arranged for the time and place of the interview for those who consented. The only people to know the names of participants are the interpreter and the CNHC data manager who drew the sample. An additional draw was made to help insure that there are 100 completed interviews. To further insure respondent confidentiality, the completed instruments will be kept only as long as it takes to record responses in the database for analysis. When data are entered, questionnaires are shredded and disposed of. The computer file with respondents’ information will contain no personal identifiers. Anyone using the file will see only variable indicators—no name or client identifiers.

A total of 100 participants will have completed the test GSSI at Time 1, and 50 of these will have completed the GSSI a second time to determine the test-retest reliability of the instrument. The majority of the participants completed the instrument while waiting for or following their appointments at the Health Centers; others were interviewed in their homes at their convenience. Participants were presented with a $25 Kroger gift certificate for participating in each interview.

Analysis. The analysis will proceed as follows. Customary scale analysis procedures (e.g., Fraenkel & Wallen, 2000) will be used. Factor analysis will allow us to determine if the psychological distress construct, as measured, is uni-dimensional or multi-dimensional. Reliability of the resulting scale(s) will be evaluated using alpha, omega, and Time 1-Time 2 correlation(s).

In keeping with the goal of instrument parsimony, further analysis will be used to establish the shortest version of the scale that is possible within the parameters of acceptable reliability.

To further explicate the findings we will analyze the results in terms of a small number of demographic and social support items suggested as appropriate by the professional we have consulted. These include age, sex, length of time in U.S., and availability of social supports such as friends and family members. These variables can be used to identify subgroups for whom the scale(s) may be more and less reliable.

REFERENCES


**Other Publications of the Research to Date**

A MODEL OF CARING LABOR: 
NEW HOPE IN THE BATTLE AGAINST EMOTIONAL EXHAUSTION 
AND TURNOVER OF CASE MANAGERS

The Ohio State University
Department of Psychology

Beverly A. Seffrin, PhD                  Phyllis C. Panzano, PhD

Community Support Program (CSP) workers are the cornerstone of the community mental health system (CMH). Considerable evidence suggests consumers of mental health services derive substantial benefits from developing long-term, trusting relationships with their case managers. Thus, the success of CMH depends partially on the ability to attract and retain CSP workers.

However, data indicate that the average CSP worker remains on the job for less than two years. In addition, findings from an ODMH-funded longitudinal study suggest that high percentages of CSP workers report an intention to quit their jobs or otherwise leave their positions (ODMH, 1999). The implication of these findings is that, without a concerted effort to encourage the retention of staff, turnover rates among CSP workers are likely to remain high.

High CSP turnover is costly from a number of perspectives. It is costly to consumers who benefit from the security of a long-term relationship with a case manager. The cost is substantial for mental health agencies from the standpoint of increased selection and training costs. A recent study estimated the cost of replacing each case manager to average nearly $4,000 (Gitter, 2004).

Turnover is also costly to the morale of the remaining personnel in the agency, who must work in an understaffed environment and struggle to absorb the additional workload caused by high turnover. It may even be costly to the CSP workers who leave their jobs, as they emotionally and financially contemplate abandoning their chosen career paths. Understanding factors that are likely to increase satisfaction and tenure of valued staff in this turbulent environment is critical to the many stakeholders in the Ohio mental health system.

While an array of factors expected to impact withdrawal behaviors has been studied, there have been no appreciable gains in the tenure of CSP workers. However, recent developments in organizational research involving emotional labor within service industries may provide a breakthrough in the endeavor to retain qualified and well-trained CMH staff.

Emotional Labor

Emotional labor is the effort required by a worker to express prescribed emotions on the job, regardless of whether s/he feels these emotions (Hochschild, 1983). Emotional labor may be explicitly required by the employer (i.e., display rules), or the employee might feel obligated to perform emotional labor for some other reason, such as professional norms. Examples of emotional labor include: 1) when workers act pleasant as part of their job (e.g., waiter); 2) when workers act unpleasant (e.g., bill collector); and 3) when workers hide the feelings that they have (e.g., a judge who must appear neutral). Virtually any obliged/required emotional display or suppression of feelings at work can be classified as emotional labor, and most Americans routinely perform emotional labor as part of their jobs.
Crafting and controlling the emotional displays of employees is valuable for a variety of reasons. Most salient to service organizations is the belief that emotions are contagious, so that a customer will “catch” positive emotions exuded by an employee. In other words, if the employee seems happy, there is a better chance that a customer will be happy. Organizations hope that a happy customer translates to improved customer relations, an enhanced reputation and repeat business (Hochschild, 1983).

Workers also reap the benefits of emotional labor, for example when a convincing display of appropriate emotions results in financial rewards in the form of tips or a pay raise (Rafaeli & Sutton, 1987). In addition, a working environment with upbeat workers is more pleasant for employees. Finally, modulation of emotions has been found to be physically healthy (Conrad & Witte, 1994).

Although there are potentially positive aspects of emotional labor, it has also been linked to emotional dissonance (e.g., Hochschild, 1983; Rafaeli & Sutton, 1987). Emotional dissonance is an internal state that occurs when a worker’s inner emotions do not match his/her actions. For example, a superstore greeter may feel sad or angry, but still has to act friendly and enthusiastic to customers because of the display rules of the job. Emotional dissonance has been linked to poor personal and employment outcomes like low job satisfaction, high emotional exhaustion and increased intention to quit (e.g., Morris & Feldman, 1997).

Workers who provide care to others as part of their jobs (such as CSP workers) may encounter even greater emotional demands. With caregivers, it is “impossible to draw clear distinctions between the worker, the work process, and the product or outcome, because the quality of the interaction is frequently part of the service being delivered” (Leidner, 1999, p. 83). Caregiving could result in two distinct scenarios for the workers who perform it. First, there could be an additive effect from multiple caring relationships so that caregivers are more likely to suffer detrimental effects from emotional dissonance (Wharton & Erickson, 1993). In other words, an individual may provide caregiving in one or more personal relationships (e.g., with dependent children) in addition to providing caregiving in multiple professional relationships (i.e., with clients), and these multiple caregiving roles may compound and have adverse effects on the individual. Conversely, if there is a good fit between the worker and his/her chosen profession (i.e., the caregiver naturally feels caring, warm and friendly), then there may not be an increased likelihood that caregivers will suffer the detrimental effects of emotional labor and emotional dissonance (Rafaeli & Sutton, 1987).

**Research Goals and Questions**

The purpose of this research was to test a model of emotional labor tailored to employees in organizations that provide caregiving services. Of particular interest were variables that may contribute to the formation of emotional dissonance as well as variables that might interrupt the relationships between emotional dissonance and the study’s outcomes. The study outcomes include job satisfaction (the extent that the employee likes the job and has good feelings about the work being done), emotional exhaustion (the extent that the job takes an emotional toll on the worker--this is a component of burn-out) and intention to quit (in the near future). These outcomes were chosen based on their expected relationships to emotional labor and emotional dissonance, as well as their relevance to caregivers and their employers.

There are three main research questions for this study.

Research Question 1: What variables contribute to emotional dissonance in employees of caregiving organizations?
Research Question 2: Does emotional dissonance relate to the study outcomes?
Research Question 3: How can emotional dissonance be prevented, interrupted or weakened?
The Research Model

Four aspects of emotional labor identified by Morris and Feldman (1996) were included in the research model. Three of these are expected to be positively related to emotional dissonance, including: 1) duration, or how long the worker is required to maintain the emotional display; 2) frequency, or how often the worker must engage in emotional labor, and 3) intensity, or the strength of the displayed emotions (e.g., can the worker act mildly pleasant, or must the worker seem ecstatic?) One aspect of emotional labor is expected to be negatively related to emotional dissonance: variety of displayed feelings. In other words, if the worker is allowed to display a variety of emotions--both positive and negative--there is an increased chance that the worker’s displayed emotions will match those s/he is feeling (see Figure 1).

Figure 1. The full research model.

In turn, emotional dissonance is expected to be related to the study outcomes. As stated earlier, these outcomes include job satisfaction, emotional exhaustion and intention to turn over (see Figure 1.) As emotional dissonance increases, job satisfaction is expected to decrease while emotional exhaustion and intention to turn over are expected to increase.

While emotional labor is a characteristic of caregiving jobs, emotional dissonance may not be inevitable. This research investigated moderating variables that might prevent the development of emotional dissonance, or that might interrupt the relationships between emotional dissonance and model outcomes. These moderating variables are especially important because the employer may be able to influence them.

Preventing the Development of Emotional Dissonance

Most organizational researchers agree that both individual differences and situational variables influence an individual’s behavior (Chatham, 1989). Using this rationale, an individual’s emotional display is partially dictated by the situation and partially created by the desires and decisions of the
individual (e.g., Walden & Smith, 1997). Therefore, one strategy to prevent the development of emotional dissonance is to create a situation where the worker has the latitude to show genuine feelings. The following situational variables may increase the likelihood that workers can show genuine emotions and thereby circumvent the development of emotional dissonance. Note that these variables do not always represent an ideal state of affairs (e.g., a weak understanding of what constitutes good performance is predicted to hinder the development of emotional dissonance, but it may not be otherwise desirable).

First is autonomy, or the extent that the worker decides how to go about doing his/her work using personal initiative or judgment. Second is performance criteria, the extent that the worker understands what constitutes satisfactory job performance. Next is role conflict, the extent that the worker perceives incompatible job expectations from different sources such as from supervisors, clients or from him or herself. Finally is work method, or the extent that the worker perceives the best approach to accomplish the job task (see Figure 1.) Autonomy and role conflict are expected to be negatively related to emotional dissonance, while performance criteria and work method are expected to be positively related to emotional dissonance. In addition, this study will investigate whether the combination of these four variables will moderate the relationships between frequency, duration and intensity of emotional labor and emotional dissonance.

Interrupting the Relationships between Emotional Dissonance and Detrimental Outcomes

The second opportunity to interrupt the relationships in the model occurs between emotional dissonance and the model outcomes. These moderating variables will be discussed next.

Kahn (1993) suggested that caregivers are emotionally drained by their clients and this can lead to burnout. He proposed that relationships within the organization can either increase the drain on the caregivers, or replenish the caregiver’s resources. Support received by the caregiver may decrease the likelihood that emotional dissonance will lead to the detrimental work outcomes in this research.

Social support received from supervisors and social support received from coworkers refer to the extent that these important individuals provide a caring environment in which the caregiver works. For example, if a caregiver is experiencing emotional dissonance, but coworkers and/or supervisors show support and empathy, the relationships between emotional dissonance and the study’s outcomes may be reduced or eliminated (see Figure 1). These variables are also expected to have direct relationships to the outcome variables.

Perceived instrumentality of the emotional labor is the final variable expected to interrupt the relationships between emotional dissonance and the study outcomes. This is the extent that the worker perceives that his/her emotional labor is helpful in facilitating outcomes that are valued to the worker, the client and/or the organization. For example, a caregiver may need to act pleasant although s/he feels unpleasant, resulting in emotional dissonance. However, if this caregiver believes that acting pleasant is helpful to the client, then emotional dissonance may not be related to lower job satisfaction, higher emotional exhaustion and a greater intent to quit (see Figure 1).

The entire research model shown in Figure 1 has now been defined as follows: emotional labor (made up of four aspects) is predicted to relate to emotional dissonance which, in turn, is expected to be linked to the outcomes. Situational variables that are expected to interrupt the relationship between emotional labor and emotional dissonance and/or may be directly related to emotional dissonance have been identified. The relationships between emotional dissonance and the outcomes may be interrupted by social support received from coworkers and supervisors and the perceived instrumentality of the
emotional labor. In addition, social support received from the two sources is expected to be directly related to the outcomes.

**Methods**

Data were gathered using a questionnaire that included Likert-type, multiple choice, semantic differential and open-ended items. The scales were generally based upon previously published research. Hypothesis testing involved bivariate correlations, *t*-tests, hierarchical and mediated linear regressions. Stepwise regression was used to further interpret the contribution of the model variables.

**Findings**

Data were collected in late 2001 and early 2002 from 146 of 307 (i.e., 48% response rate) employees of two large, urban, Ohio mental health agencies. Seventy-three percent of participants were female. Sixty-two percent of participants were Caucasian, 23 percent were African American and 15 percent reported belonging to other ethnic groups. Most (64%) participants reported that they worked with consumers of mental health services while the rest (36%) most frequently worked with some other type of internal or external customer. Overall, participants reported that their emotional labor consisted of amplifying positive feelings (*t* = 5.05, *p* < .01) and suppressing negative feelings (*t* = -4.29, *p* < .01).

The internal consistency of the scales was moderate to very good (i.e., Cronbach alphas ranged from .68 to .94).

The first research question asked what contributes to emotional dissonance in employees of caregiving organizations. Four dimensions of emotional labor were considered: frequency, duration, intensity and variety of emotions displayed at work (Morris & Feldman, 1996). Of these, frequency and intensity of emotional displays were found to be unrelated to emotional dissonance. Intensity of emotional display was negatively related to emotional dissonance (*r* = -.20, *p* < .05), suggesting that more intense emotions were associated with lower emotional dissonance. This relationship was in the opposite direction of the one predicted. The variety of emotions displayed was significantly and negatively related to emotional dissonance (*r* = -.31, *p* < .01), as was predicted.

So far, in answer to research question #1, two aspects of emotional labor are related to emotional dissonance. The more intense the emotional display and the greater the variety of emotions shown by a caregiver, the lower the emotional dissonance reported.

The second research question asks if emotional dissonance is related to the study outcomes. As predicted, emotional dissonance is significantly related to all three of the outcomes: it is negatively related to job satisfaction (*r* = -.30, *p* < .01), and positively related to emotional exhaustion (*r* = .51, *p* < .01) and to intention to quit (*r* = .40, *p* < .01).

The third research question asks if variables in the model can prevent, interrupt or weaken emotional dissonance. The first part of the question asks whether emotional dissonance can be prevented by interrupting the relationship between the aspects of emotional labor and emotional dissonance. However, none of the components of emotional labor were positively related to emotional dissonance. Therefore, the moderating effects of the situational variables (i.e., role conflict, autonomy, etc.) are not relevant. However, the original research model also suggested that the situational variables might be directly related to emotional dissonance. All of the situational variables were significantly correlated to emotional dissonance as follows: autonomy was negatively related to emotional dissonance, (*r* = -.27, *p* < .01); performance criteria was negatively related to emotional dissonance, (*r* = -.17, *p* < .05); role conflict...
was positively related to emotional dissonance, \((r = .44, p < .01)\), and work method was negatively related to emotional dissonance, \((r = -.34, p < .01)\).

The second part of this research question asks if emotional dissonance, once formed, can be weakened or interrupted. The research model (Figure 1) suggests that social support from coworkers and supervisors might interrupt the relationships between emotional dissonance and model outcomes. This assertion was not supported (i.e., the interaction terms did not explain significant variance in the outcomes).

However, social support received from coworkers and supervisors were directly related to most of the outcomes. Social support from coworkers was significantly correlated with job satisfaction \((r = .23, p < .01)\) and negatively related to intention to quit \((r = -.21, p < .01)\), but was not significantly related to emotional exhaustion \((r = .10, \text{ns})\). Social support from the supervisor was correlated with job satisfaction \((r = .51, p < .01)\), and negatively correlated with both emotional exhaustion \((r = -.39, p < .01)\) and intention to quit \((r = -.46, p < .01)\). Thus, workers who received social support from coworkers and supervisors were more likely to be satisfied with their job and less likely to think about quitting. In addition, workers who received social support from their supervisors were less likely to experience emotional exhaustion.

The final variable expected to weaken or interrupt the relationships between emotional dissonance and the study outcomes is perceived instrumentality of emotional labor. In all cases, instrumentality did interrupt these relationships (for job satisfaction, \(b = 1.01, t = 2.65, p < .01\); for emotional exhaustion, \(b = -.98, t = -2.82\) and \(p < .01\); and for intention to quit, \(b = -.95, t = -2.54\) and \(p = .01\)). When workers perceived their emotional expression as instrumental, increased levels of emotional dissonance were related to only slightly lower job satisfaction. When workers did not perceive their emotional expression as instrumental, emotional dissonance was related to dramatically lower job satisfaction.

The trend was reversed for emotional exhaustion and intention to quit. When workers perceived their emotional labor to be instrumental, increased levels of emotional dissonance were related to modest levels of emotional exhaustion and intention to turnover. However, when workers did not perceive their emotional expression as instrumental to their goals, emotional dissonance was related to much higher levels of emotional exhaustion and intention to turnover.

Final Research Model

This research was not designed to test the fit of the data to the proposed model of emotional labor. Instead, several linkages between variables in the model were examined. In addition to the analyses discussed above, a series of stepwise regressions were performed. This is a data-driven approach used to identify the variables that have the most explanatory power for other variables. Based upon findings, a revised model is shown in Figure 2 and will now be described.

In the revised model, intensity and variety of expressed emotions are negatively related to emotional dissonance. Role conflict is negatively related to positive outcomes, and positively related to emotional dissonance. Social support received from supervisors and coworkers is positively related to the outcomes. Emotional dissonance is negatively related to desirable outcomes, and perceived instrumentality moderates this relationship so that when workers perceive that their emotional labor is instrumental to achieving desired goals, the relationships between emotional dissonance and the outcomes are weakened.
Figure 2. Revised model that draws upon the results of analyses.

![Diagram](image)

**Practical Contributions/Action Implications**

Findings suggest there are some actions that can be taken by caregiving organizations that may improve outcomes for the organization and its staff. First, emotional dissonance emerged from this research as a variable that is critical in the model of caring labor. Emotional dissonance was negatively related to job satisfaction, and positively related to emotional exhaustion and intention to quit. Fortunately, another variable—perceived instrumentality of emotional labor—weakened the relationships between emotional dissonance and the study outcomes. The more that the worker perceived that his or her emotional labor was helpful in bringing about desired results (e.g., expressing certain feelings was helpful to him/herself, the client and/or the organization), the weaker the relationships between emotional dissonance and model outcomes.

However, in a series of open-ended responses, many caregivers rejected the idea that their personal emotions are related to their work as a caregiver. Some respondents expressed the belief that confronting their internal feelings compromised their professionalism. Unfortunately, this research suggests that when caregivers deny or repress their emotional responses, the development of staff burnout and turnover may be hastened.

Therefore, the first action implication from this research is that caregivers and their organizations need to work toward the understanding that emotional labor is a functional and valid approach to dealing with clients. The presence of emotional labor should be identified, and its value to the caregiver’s role should be discussed. When emotional labor is accepted, then its function in achieving desirable outcomes can be understood.

The second action implication from this research involves the finding that expressing a variety of emotions is related to lower emotional dissonance. This makes sense because by definition, emotional dissonance occurs when an individual’s emotional display does not match his/her internal feelings. Therefore, one approach to preventing emotional dissonance is to allow workers to express genuine emotions, including negative feelings, in safe situations. This recommendation does not insinuate that workers should freely express any emotion at any time that the emotion is experienced. As established earlier, the modulation of emotions is valuable to both employers and employees for a variety of reasons, not the least of which is to create a pleasant atmosphere for other staff to enjoy. However, staff of
caregiving organizations should be given the opportunity to express emotions that might normally be suppressed (e.g., grief, anger, anxiety, disgust and frustration) in controlled venting opportunities. Expressing these emotions may hinder the development of emotional dissonance.

Finally, role conflict was positively related to both emotional dissonance and to undesirable employment outcomes of this research. Employers should help their caregiving staff to identify and address conflicting demands from multiple constituents. Realistic expectations should be set for each stakeholder. For example, information should be provided to clients and their families regarding reasonable expectations of the services that will be provided by their CSP workers. In addition, it should be recognized that a substantial amount of role conflict results from the tension between quality and quantity. For mental health caregivers, this is frequently the conflict between the desire to take sufficient time to provide high quality services to clients while simultaneously meeting productivity and paperwork standards. Organizations can and should do whatever is possible to eliminate the perceived discrepancy between the demands for quantity and quality. Eliminating duplication in paperwork, providing time management solutions and offering instrumental supports to field staff are a few common suggestions to accomplish this goal.

**Limitations of the Research**

The design of this study depended upon completion of a questionnaire, and the results are subject to all of the weaknesses associated with this methodology (Edwards et al., 1997). Length of the questionnaire may have created fatigue in the respondents. Response bias is a concern with a questionnaire methodology. In addition, some respondents voiced the concern that supplying demographic information would allow individual responses to be identifiable. This concern may have influenced the candor of the respondents.

It is likely that some respondents questioned the validity of answering questions about emotions in the workplace. A few individuals voiced displeasure at these items. For example, upon returning his questionnaire to a researcher, one respondent commented that management was trying to find a way to blame its problems on employees by suggesting that workers’ emotions interfere with effective performance. Other respondents remarked that the effective management of emotions experienced at work is an important issue worthy of consideration.

Finally, the direction of causality of the relationships in the model can not be inferred. Testing the fit of models using path analysis could provide some support for direction of causality. The number of respondents that participated in the study was not sufficient to provide the necessary power for this type of statistical analysis.

**Conclusion**

Emotional labor and emotional dissonance in caregiving organizations are complex phenomena. This study has identified a number of intriguing relationships among variables of interest in this domain. The research has contributed to scientific knowledge and has suggested strategies for dealing with emotional labor in applied settings.

**REFERENCES**


**Other Publications of the Research to Date**


**Paper Presentations of the Research to Date**

The cost of mental health services has shifted over the decades, with the development of effective medications, the movement to de-institutionalization and other trends. In recent years, the cost of services has risen steadily while funding has flattened or decreased. In the face of this, systems have been forced to find effective services and service delivery systems that properly allocate care to those in need. This drive for effective services has led to the adoption of a wide array of programs, making the decision process regarding the appropriate level of care more complex. Clinicians and consumers are faced with a more challenging set of issues when deciding the location and level of care that is appropriate for their circumstances.

As a result of the increase in alternatives and in response to the need to reduce inappropriately restrictive (and expensive) placements, level of care protocols are being developed to help guide the clinician when working with the consumer to broadly determine the appropriate level of care. For example, level of care research attempts to identify methods of linking available mental health resources and services to corresponding consumer levels of need (Kazarian, Llewellyn, & McCabe, 1996; Uehara, Smukler, & Newman, 1994). The guiding principle of level of care practice and research is to match the appropriate types of services to clients who have similar mental health treatment needs.

Many questions remain regarding the reliability, validity, and utility of level of care protocols (Foster, Saunders, & Summerfelt, 1996). Bickman et al. (1997) suggest that the written standards may be too general or that clinicians need more training in using such standards. They go on to suggest that an even more basic implication might be that “preestablished criteria may not be valid representations of appropriate care” (p. 518). In addition, they suggest that level of care standards have not been linked to clinical and functional outcomes.

Several themes emerge as clear. First, there is wide agreement that placement setting and restrictiveness should be appropriately matched to a person’s level of functioning and severity of problems. Second, generally more severe cases should be placed in more restrictive treatments or settings, and inappropriately restrictive placements are to be avoided for reasons of the client’s right to service in the least restrictive setting, cost and quality of care. Third, placements are sometimes made based on extraneous factors (e.g., financial incentives, availability of options) rather than based on the person’s circumstances and need. And fourth, level of care protocols are being developed to assist in the decision-making regarding treatment alternatives.

In the midst of this move to improve clinical decision-making regarding the appropriate placement and intensity of treatment, a parallel move to increase the accountability of mental health service providers has resulted in pressure to include outcomes assessments as a routine part of practice.
The state of Ohio selected instruments that should now be implemented on a state-wide basis. These measures are being used to gather data regarding the effectiveness of publicly funded mental health services within the state for both children and adults.

Because the Ohio Outcomes System includes the routine administration of clinical assessment instruments at or during the initial point of service, as well as at subsequent decision-making junctures in treatment, incorporating Outcomes data into a level of care decision-making process is a real possibility. If feasible, the use of Outcomes instruments at the initial assessment for making level of care decisions would limit the need for clinicians to complete multiple assessment (e.g., outcome assessment, level of care assessment, etc.). Various efforts have been made in Ohio to establish level of care protocols for behavioral health services. The Ohio Department of Alcohol and Drug Addiction Services formed a level of care protocol that has been adapted for ODADAS funded services and is incorporated into the State’s Behavioral Health data module about episodes of treatment. It is important to recognize that the ODADAS level of care system should serve as a “boundary” constraint for any level of care protocol developed for mental health services. In addition, the Behavioral Health data module could be a mechanism for tracking level of care state-wide.

A second level of care system is the Ohio Department of Mental Health’s Hospital Utilization Management Guidelines. This protocol covers the use of hospital and sub-acute services for children and adults and is not intended as a comprehensive level of care system for community based services. In 1999, the Metro Behavioral Health Network hired Alice Linn to develop a comprehensive level of care structure for children and adults (Linn, 1999). These were never implemented, in part because of a lack of tools for measuring need that had a defined relationship with the various levels of care. While there are various levels of care available in Stark County, including acute and longer-term hospitalization, residential programs, crisis stabilization, CSP and outpatient therapy, there is no single level of care protocol in place for adults.

For two years, the Stark County system has used the Multnomah Community Ability Scale (Multnomah), a well established and widely used measure of clinical need and level of functioning, to determine the need for a full CSP assessment for all new and existing outpatient and CSP cases. The Multnomah has proven reliability and validity and has been shown effective as simultaneous measures of both outcomes and level of care selection (Barker, Barron, McFarland, & Bigelow (1994a). At the same time, the system has been using the Adult Provider A Community Functioning Scale as a measure of outcomes. Ideally, the Community Functioning Scale could be used for both functions. However, the validity of the scale has not been determined, nor has a level on the scale equivalent to the Multnomah cut-off value been determined.

**Purpose of the Study**

The major goal of this study is to determine the reliability and concurrent and predictive validity of the Adult Provider A Community Functioning Scale. The primary concurrent measure used in this study will be the Multnomah. Both the Community Functioning Scale’s and the Multnomah’s relationship to subsequent state hospital and public mental health service utilization will be examined.

A secondary goal of the project is to establish a Community Functioning score equivalent to the Multnomah cut-off score, as well as to determine the scores that discriminate among those assigned to various levels of CSP within the Stark County system.
Establishing the Adult Provider A Equivalent Score and Determining Appropriate Scores for Level of Care Cut-Off Scores

A percentage equivalency technique will be used to establish Community Functioning scores equivalent to the Multnomah score (62) that is currently used as cutoff value for determining the need for a complete CSP assessment. Additionally, the Community Functioning and Multnomah scores of those assigned to the three levels of CSP service will be used to interpolate cut-off scores between the levels of CSP.

Hypothesis 1: The correlation between the Community Functioning Scale and the Multnomah will be higher than .56. Statistic: Pearson correlation coefficient.

Hypothesis 2: The ability of the Multnomah will not differ significantly from the ability of Community Functioning Scale to predict the level of care decision. This hypothesis will be tested for each level of care. Statistic: Chi-square.

Design for Establishing the Concurrent Validity of the Adult Provider A Community Functioning Scale

The Multnomah is a scale with many excellent properties. Barker, Barron, McFarland, Bigelow and Carnahan (1994b) did the premier work on the reliability and validity of the Multnomah. It has high inter-rater \( r = .85 \) for the entire scale, items range from \( r = .32 \) to \( .78 \) and high test-retest reliability \( r = .83 \). The primary method to determine concurrent validity was to correlate the Multnomah with an overall rating of functioning \( r = -.78, p < .0001 \). The Multnomah also proved to be a substantial predictor of subsequent hospital use.

The Multnomah was designed for use in rating the functioning ability of persons with severe mental disabilities who live in the community, precisely the population of interest in this study. It is brief--17 items--and has “face” validity with clinicians who recognize the completeness of the factors included. Training is required, but it is minimal (Barker et al., 1994c).

A secondary measure of concurrent validity will be the Global Assessment of Functioning item from the DSM-IV. This single-item overall rating of functioning is readily available, although not known for its psychometric properties.

Criterion validity will be tested by examining the ability of Community Functioning Scale to predict level of care assignment in comparison to the Multnomah’s ability to predict level of care assignment.

Hypothesis 3: The correlation between the Community Functioning Scale and the Global Assessment of Functioning will differ from zero. Statistic: Pearson’s correlation coefficient.

Hypothesis 4: The ability of the Multnomah will not differ significantly from the ability of Community Functioning Scale to predict the level of care decision. Statistic: Chi-square.
Case managers from the participating agencies will complete a re-test of the Community Functioning Scale and Multnomah two weeks after the first administration. These re-tests will be conducted for 63 clients. For a given client, the same case manager that conducted the first administration will conduct the second administration. Scores from the first administration will be correlated with scores from the second administration to determine the re-test reliability of the Community Functioning Scale and Multnomah.

**Hypothesis 5**: Community Functioning scores from the first administration will positively correlate with re-test CFAS scores at a statistically significant level.

**Hypothesis 6**: The Community Functioning test/re-test correlation will be as good or better than the Multnomah test/re-test correlation.

**Inter-Rater Reliability**

Pairs of clinicians that are familiar with a given consumer will complete the Multnomah and Community Functioning Scale independently but on the same day. In most cases, the raters will be the consumer’s case manager, and the case manager’s supervisor. Because of the requirement for both raters to know the consumer, these will mostly be longer-term consumers. These administrations will take place on 63 consumers. Scores from the first set of raters will be correlated with scores from the second set of raters to determine the inter-rater reliability for both the Community Functioning Scale and Multnomah.

**Hypothesis 7**: The inter-rater reliability correlation for the Community Functioning Scale will be statistically significant.

**Hypothesis 8**: The Community Functioning Scale inter-rater reliability correlation coefficient will be as good or better than the Multnomah inter-rater reliability correlation coefficient.

**Design for Determining the Predictive Validity of the Adult Provider A Community Functioning Scale**

A regression design will be used to determine the predictive validity of the Community Functioning Scale versus the Multnomah in predicting the actual dollar value (net amount) of the services rendered and the number of contacts (count of claims) in the six months following each administration of the instruments. Therefore, a t-test of the difference between the correlations of the two measures with the level of service use will be used to determine if the Community Functioning Scale is less predictive.

**Hypothesis 9**: The Community Functioning Scale will predict service use as well as or better than the Multnomah. Statistic: $t$-test of difference between correlation coefficients.

**Hypothesis 10**: The Community Functioning Scale will be negatively correlated with service use in the six months following the administration. Statistic: Pearson correlation coefficient.
Subjects

There is a lack of information to determine the sample size required in a statistical method, and so an alternate method of determining sample size was sought. The sample sizes used by Barker, Barron, McFarland, Bigelow and Carnahan (1994b) to perform the premier work on determining the reliability and validity of the Multnomah were used as a benchmark for determining sample sizes. In the reliability portion of that study, there were 43 pairs of ratings used in the inter-rater reliability assessment, and 40 pairs of ratings in test-retest assessment. In the validity portion of that study, 33 consumers’ data were used for the correlation between the Multnomah rating and an overall rating of functioning, and 240 consumers’ data were used in the predictive validity assessment.

Participants are the same for the reliability and validity assessments and will range in age from 18 to over 65, will have a primary diagnosis that qualifies them for care, and will be in service in one of the participating mental health service providers during the study period. All consumers involved in this project will be in service or entering service at one of five community agencies funded by the SCCMHB.

Applicability

Primarily the study promises to identify how reliably and validly the Adult Provider A Community Functioning instrument can be used to measure functioning in adults with severe mental disabilities. Secondarily, the research will determine the ability of the Community Functioning Scale to predict service utilization. Achievement of these goals make available to the public mental health system information that can be used to better deliver appropriate care. If the Community Functioning Scale proves to be a close equivalent to the Multnomah instrument, then it can be validly used in determining severity. This research tests whether the Outcomes data can be used as both a tool for assisting clinical judgment in making level of care decisions and to measure outcomes of the public mental system in Ohio.

REFERENCES


Because Ohio’s Outcomes System includes the routine administration of clinical assessment instruments at the initial point of service, the possibility of incorporating the Outcomes data into a level of care decision-making process would be especially efficient. If feasible, the use of the Outcomes instruments at the initial assessment for making level of care decisions would limit the need for multiple systems in operation simultaneously (e.g., outcomes assessment, level of care assessment, etc.). However, little is known regarding the information that is needed to make accurate level of care decisions (Foster, Saunders, & Summerfelt, 1996). The Outcomes measures may not provide sufficient information for level of care decision-making. Or, conversely, level of care protocols may be insufficient without incorporating standardized assessment data from outcome measures. These are empirical decisions that have yet to be fully examined. As a result, this study examines the utility of the agency worker rated Ohio Scales (OS-W) in relationship to the Child and Adolescent Functional Assessment Scale (CAFAS) and its associated level of care protocol. More specifically, this study was designed to examine the relationship between the agency worker rated Ohio Scales and the CAFAS and, if possible, to establish and test calibrated cutoff scores between the two measures.

Samples

Stark County Sample. The Stark County data set consists of 210 youth who were rated by agency workers on the CAFAS and Ohio Scales (Problem Severity and Functioning). In addition, level of care assignment and several other demographic and behavioral characteristics were gathered (e.g., sex, age, education, risk factors, race). Two data points are included for nine youth because they entered or received services on more than one occasion (e.g., had two crisis episodes). The duplicate data for these nine are counted as independent cases. The remaining youth are each represented by one set of ratings. The youth consisted of 84 girls and 125 boys (1 missing) and range in age from 6 to 18 (M = 12.27; SD = 3.07). The racial composition of the group included 175 White, 32 African American, 7 Native American, 1 Asian, 11 other, and 2 unknown (total exceeds 210 because multiple groups could be endorsed). Educational level ranged from kindergarten to 12th grade (k – 1, 1st – 13; 2nd – 12; 3rd – 17; 4th – 20; 5th – 23; 6th – 17; 7th – 19; 8th – 26; 9th – 22; 10th – 16; 11th – 10; 12th – 2; missing - 12).

California Sample. The State of California conducted a pilot test of an alternative Children’s Performance Outcome System. Data were gathered for a large sample of youth receiving mental health services by state sponsored facilities. Children were receiving services for a variety of mental health issues (e.g., ADHD, Psychotic Disorders, Anxiety Disorders, Mood Disorders). Fifteen California counties participated in the pilot project. These counties were chosen for their diversity on a number of variables including geographic location, urban/rural environment, size and self-reported ethnicity. Clients (youth and parents or parent surrogates) and agency workers were asked to complete the packet of measures at treatment initiation. A portion of clients completed the packets a second time at treatment termination. All data were coded and entered into a database with all identifying information removed. The sample had large numbers of missing data for certain variables. The sample consisted of 2,755 boys and 1,533 girls (1,484 missing sex data). The youth were on average 11.7 years old (SD = 3.66). A variety of racial groups were represented with approximately 29 percent White, 28 percent Hispanic, nine
percent African American, one percent Asian, .5 percent Native American, 7.5 percent multi-racial, and 24 percent missing data.

**Measures**

**Ohio Scales.** The Ohio Scales (Ogles, Melendez, Davis, & Lunnen, 2001) were developed with the hope of making a unique contribution to the evaluation of mental health services for youth through combining several important instrument characteristics: practical, multiple content areas, multiple sources, and psychometric rigor. The final goal was a set of instruments that would emphasize the practical characteristics that are useful for agencies and practitioners (e.g., brief, easy scoring, easy to interpret, reasonable price) while maintaining psychometric rigor. In addition, multiple constructs were included in one brief measure (in parallel form for multiple raters) rather than relying on the use of a battery consisting of multiple independently produced measures. The Ohio Scales have adequate internal consistency (alphas range from .72 to .95 in both clinical and community samples) and test-retest reliability (range from .67 to .88). Similarly, validity has been established through correlations with other similar, established measures such as the Child Behavior Checklist (CBCL) and Youth Self Report (YSR) \(r = .89\) and \(r = .82\), respectively and the ability to discriminate between clinical and non-clinical samples (Ogles et al., 2001; Ogles, Dowell, Hatfield, Melendez, & Carlston, in press).

**CAFAS.** The Child and Adolescent Functioning Assessment Scale (CAFAS; Hodges & Wong, 1996) is a multidimensional measure that was designed to assess the extent of impairment in youths with various types of psychopathology (Hodges, Doucette-Gates, & Kim, 2000). The CAFAS consists of eight subscales: School/Work, Home, Community, Behavior toward Self and Others, Moods/Emotions, Self-Harmful Behavior, Substance Use, and Thinking. Clinicians rate the youth by identifying specific behavioral anchors that are associate with the following scale: 0 - minimal or no impairment, 10 - mild impairment, 20 - moderate impairment, or 30 - severe impairment. A total score can be calculated summing all eight subscales or through an algorithm that sums five subscales. The total of the eight subscales is used in the present study.

There has been extensive examination of the psychometric features of the CAFAS (Hodges & Wong, 1996; Hodges & Wong, 1997; Hodges & Kim, 2000). There is solid evidence for the interrater reliability of the CAFAS (Hodges, 1997; Hodges & Wong, 1996). However, the internal consistency reliability of the CAFAS has not been well-established (Bates, 2001). Support for the construct, criterion, concurrent, and predictive validity of the CAFAS is also plentiful (Hodges & Wong, 1996). The CAFAS has also been shown to be a significant predictor of service utilization and costs (Hodges & Wong, 1996).

**Results**

**Correlation of the CAFAS with the OS-W.** Within the sample from Stark County, the correlation between the worker rated Functioning Scale and CAFAS was \(r (204) = -.52, p < .001\). The correlation between the worker rated Problem Severity Scale and CAFAS was \(r (204) = .55, p < .001\). In the California sample, the correlation between the worker rated Functioning Scale and CAFAS was \(r (4019) = -.62, p < .001\). The correlation between the worker rated Problem Severity Scale and CAFAS was \(r (4233) = .63, p < .001\).

**Equivalent Scores.** To identify equivalent scores on the CAFAS and Ohio Scales Problem Severity and Functioning Scales, the distributions and cumulative percentages for each score within the two samples were described. In this way, scores with equal proportions of the sample could be identified. Table 1 lists the percentile equivalent scores for the CAFAS, Problem Severity and Functioning Scales for the Stark County sample.
Using the percentile equivalent scores, ranges that match the Stark County Level of Care criteria were developed for each of the samples and both scales (Problem Severity and Functioning). These ranges are illustrated in Table 2. Similar statistics were calculated using the California sample and produced similar scores. These data were omitted due to space limitations (see the grant final report).

Table 1. Comparable Scores on the CAFAS 8 Score Total Using Percentile Equivalent Scores on the Ohio Scales Problem Severity and Functioning Scales Using the Stark County Sample

<table>
<thead>
<tr>
<th>CAFAS 8 Total score</th>
<th>Problem Severity</th>
<th>Functioning</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>6</td>
<td>70</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>8</td>
<td>66</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>10</td>
<td>60</td>
<td>9</td>
</tr>
<tr>
<td>30</td>
<td>13</td>
<td>55</td>
<td>16</td>
</tr>
<tr>
<td>40</td>
<td>19</td>
<td>51</td>
<td>31</td>
</tr>
<tr>
<td>50</td>
<td>22</td>
<td>46</td>
<td>43</td>
</tr>
<tr>
<td>60</td>
<td>25</td>
<td>44</td>
<td>52</td>
</tr>
<tr>
<td>70</td>
<td>27</td>
<td>41</td>
<td>61</td>
</tr>
<tr>
<td>80</td>
<td>33</td>
<td>38</td>
<td>70</td>
</tr>
<tr>
<td>90</td>
<td>36</td>
<td>35</td>
<td>77</td>
</tr>
<tr>
<td>100</td>
<td>39</td>
<td>32</td>
<td>83</td>
</tr>
<tr>
<td>110</td>
<td>43</td>
<td>30</td>
<td>88</td>
</tr>
<tr>
<td>120</td>
<td>47</td>
<td>27</td>
<td>93</td>
</tr>
<tr>
<td>130</td>
<td>49</td>
<td>23</td>
<td>94</td>
</tr>
<tr>
<td>140+</td>
<td>53</td>
<td>20</td>
<td>97</td>
</tr>
</tbody>
</table>

Table 2. Proposed OS-W Score Ranges for Levels of Care using the CAFAS 8 Score Total Data from Stark County

<table>
<thead>
<tr>
<th>Level of Care</th>
<th>Original CAFAS 8 Criteria</th>
<th>Functioning Scale</th>
<th>Problem Severity Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-10</td>
<td>66+</td>
<td>0-9</td>
</tr>
<tr>
<td>1</td>
<td>20-40</td>
<td>51-65</td>
<td>10-19</td>
</tr>
<tr>
<td>2</td>
<td>50-90</td>
<td>35-50</td>
<td>20-36</td>
</tr>
<tr>
<td>3</td>
<td>100-130</td>
<td>23-34</td>
<td>37-52</td>
</tr>
<tr>
<td>4</td>
<td>140+</td>
<td>Less than 23</td>
<td>53+</td>
</tr>
<tr>
<td>5 Residential</td>
<td>140+</td>
<td>Safety overrides</td>
<td>functioning level</td>
</tr>
<tr>
<td>6 Hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comparison of CAFAS and OS-W Categories. To compare the CAFAS generated categories and the OS-W categories several analyses were conducted. (The correlation between the CAFAS and OS-W as calculated earlier is the best representation of their relationship. All comparisons of CAFAS and OS-W derived categories represent attenuated versions of that relationship created by artificially limiting two continuous variables). First, a chi-square analysis was conducted with the CAFAS and OS-W Problem Severity and Functioning Scale categories (five levels). Levels of care 4, 5, and 6 were grouped together in one category for this analysis. The data for the Problem Severity Scale within the two samples are displayed in Tables 3 and 4.
The relationship between the two category systems was significant within the Stark sample, \( \chi^2 (16,210) = 63.8, p < .001 \). Because the categories were created using the Stark sample, a second test was conducted to validate the finding using the California sample. Again, the relationship between the two category systems was significant, \( \chi^2 (16,4233) = 2149.07, p < .001 \). This suggests that the OS-W Problem Severity Scale produced similar though not perfectly matched categorizations for level of care to the CAFAS.

Table 3. CAFAS Level of Care by OS-W Problem Severity Categories using the Stark County Suggested Category Ranges and the Stark County Data

<table>
<thead>
<tr>
<th>OS-W Problem Severity LOC</th>
<th>LOC</th>
<th>LOC 1</th>
<th>LOC 2</th>
<th>LOC 3</th>
<th>LOC 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAFAS LOC</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>7</td>
<td>23</td>
<td>22</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>18</td>
<td>54</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>15</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td></td>
<td>1</td>
<td>4</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>51</td>
<td>95</td>
<td>42</td>
<td>9</td>
<td>210</td>
</tr>
</tbody>
</table>

Table 4. CAFAS Level of Care by OS-W Problem Severity Categories using the Stark County Suggested Category Ranges and the California Data

<table>
<thead>
<tr>
<th>OS-W Problem Severity LOC</th>
<th>LOC</th>
<th>LOC 1</th>
<th>LOC 2</th>
<th>LOC 3</th>
<th>LOC 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAFAS LOC</td>
<td>0</td>
<td>262</td>
<td>108</td>
<td>35</td>
<td>3</td>
<td>408</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>269</td>
<td>630</td>
<td>425</td>
<td>38</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>88</td>
<td>436</td>
<td>928</td>
<td>270</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>15</td>
<td>49</td>
<td>238</td>
<td>169</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>1</td>
<td>10</td>
<td>58</td>
<td>101</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>635</td>
<td>1233</td>
<td>1684</td>
<td>581</td>
<td>100</td>
<td>4233</td>
</tr>
</tbody>
</table>

To further examine the relationship between the CAFAS derived categories and the OS-W Problem Severity derived categories the polychoric correlation coefficient was calculated and tests of marginal homogeneity were conducted using the contingency tables (Tables 3 and 4).

For the Stark sample the polychoric correlation between the categorical Problem Severity levels of care and the CAFAS levels of care was .50 with a standard error of .060. Tests of marginal homogeneity indicated that the CAFAS and OS-W Problem Severity Scale produced similar proportions of individuals at each level—the Stuart-Maxwell test of overall marginal homogeneity was non-significant. Similarly, McNemar tests of individual proportions at each level were not significant (non-significance indicates the proportions were not significantly different or approximately equivalent). Tests of individual thresholds also indicated that the CAFAS and OS-W produced similar category thresholds. Finally, McNemar tests of overall bias or directional change were not significant, \( \chi^2 (1,210) = .009, p = .93 \). To illustrate the lack of bias or directional change, 58 of the cases that were not matched at the same category level were higher for the CAFAS and 57 of the cases that were not matched at the same category...
level were higher for the OS-W Problem Severity Scale. These findings are illustrated in Table 5. Similar analyses were conducted with the Functioning Scale with the same result, but are not presented here due to space limitations.

The finding of relatively equal proportions within the Stark sample is not entirely surprising since the OS-W Problem Severity and Functioning Scale ranges were created with specific reference to the CAFAS proportions in the Stark County sample. As a result, the Stark County ranges were examined on the California sample to ascertain their ability to categorize similarly within a second group of youth. Proportions used for the tests of marginal homogeneity using the Problem Severity Scale are displayed in Table 6.

Table 5. Proportions Used in Tests of Marginal Homogeneity for the OS-W Problem Severity Scale within the Stark County Data

<table>
<thead>
<tr>
<th>Level</th>
<th>CAFAS proportion</th>
<th>OS-W Problem Severity proportion</th>
<th>p</th>
<th>CAFAS cumulative proportion</th>
<th>OS-W cumulative proportion</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>.04</td>
<td>.06</td>
<td>.20</td>
<td>.04</td>
<td>.06</td>
<td>.20</td>
</tr>
<tr>
<td>1</td>
<td>.27</td>
<td>.24</td>
<td>.45</td>
<td>.31</td>
<td>.31</td>
<td>.89</td>
</tr>
<tr>
<td>2</td>
<td>.46</td>
<td>.45</td>
<td>.83</td>
<td>.77</td>
<td>.76</td>
<td>.68</td>
</tr>
<tr>
<td>3</td>
<td>.17</td>
<td>.20</td>
<td>1.0</td>
<td>.94</td>
<td>.95</td>
<td>.49</td>
</tr>
<tr>
<td>4</td>
<td>.06</td>
<td>.04</td>
<td>.47</td>
<td>1.00</td>
<td>1.00</td>
<td>NA</td>
</tr>
</tbody>
</table>

Table 6. Proportions Used in Tests of Marginal Homogeneity for the OS-W Problem Severity Scale within the California Data

<table>
<thead>
<tr>
<th>Level</th>
<th>CAFAS proportion</th>
<th>OS-W proportion</th>
<th>p</th>
<th>CAFAS cumulative proportion</th>
<th>OS-W cumulative proportion</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>.10</td>
<td>.15</td>
<td>.000*</td>
<td>.10</td>
<td>.15</td>
<td>.000</td>
</tr>
<tr>
<td>1</td>
<td>.32</td>
<td>.29</td>
<td>.000*</td>
<td>.42</td>
<td>.44</td>
<td>.004</td>
</tr>
<tr>
<td>2</td>
<td>.41</td>
<td>.40</td>
<td>.10</td>
<td>.83</td>
<td>.84</td>
<td>.245</td>
</tr>
<tr>
<td>3</td>
<td>.12</td>
<td>.14</td>
<td>.004*</td>
<td>.95</td>
<td>.98</td>
<td>.000</td>
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<tr>
<td>4</td>
<td>.05</td>
<td>.02</td>
<td>.03</td>
<td>1.00</td>
<td>1.00</td>
<td>NA</td>
</tr>
</tbody>
</table>

For the California sample the polychoric correlation between the categorical Problem Severity levels of care and the CAFAS levels of care was .66 with a standard error of .010. McNemar tests of marginal homogeneity indicated that the CAFAS and OS-W Problem Severity Scale produced similar proportions of individuals at levels 2 and 4. At levels 0, 1, and 3, however, the proportions were different. While the CAFAS had 10 percent of the sample in the 0 category, the OS-W had 15 percent of the sample in the 0 category. Conversely, the CAFAS had about 32 percent of the sample in level 1 while the OS-W placed 29 percent of the sample in level 1. Additionally, the CAFAS has 12 percent at level 3 while the Ohio Scales had 14 percent. It should be noted that with such a large number of subjects (and thus increased power), even a slight (2-3%) difference was significant. Similarly, the Stuart-Maxwell test of overall marginal homogeneity was significant, \( \chi^2(4,4233) = 104.85, p < .001 \), indicating differences in overall proportions when considering all levels simultaneously.
Tests of individual thresholds were consistent with the individual proportions comparisons and indicated that the thresholds for categories 0 and 1 were different. The CAFAS and OS-W produced similar category thresholds for levels 2, 3, and 4. Finally, McNemar tests of overall bias or directional change were significant, \( \chi^2 (1,4233) = 47.59, p < .001 \). Of the 2206 cases that were not matched at the same category level, 1265 were higher for the CAFAS and 941 were higher for the OS-W Problem Severity Scale. This indicates that there is a slight propensity for the CAFAS ratings to indicate a higher level of care.

**Discussion**

The CAFAS is significantly correlated with both the OS-W Problem Severity and Functioning Scales. Creation of percentile equivalent scores within two samples produced relatively similar cutoffs at each level and similar ranges of scores to match CAFAS score ranges for levels of care. When examining the correspondence between the CAFAS categories and the OS-W Problem Severity and Functioning Scales within the Stark County data, no proportional differences emerged. Although the categorization was not perfect, it was statistically significant and unbiased (e.g., equal misses high and low). Thresholds for both measures were similar.

When examined on a second, much larger data set, the marginal proportions were not maintained. This discrepancy, however, must be judged with some degree of latitude because of the large sample sizes and power of the tests. For example, the biggest proportional difference between the CAFAS and OS-W Problem Severity Scale was a five percent difference at level 0. All other differences were three percent or smaller. In short, it appears that the CAFAS and OS-W Problem Severity and Functioning Scales ranges are comparable though not a perfect match. Categories developed for the agency worker rated Ohio Scales may be reasonably used to establish initial level of care categories. Further research correlating the Ohio Scales with other relevant variables beyond the CAFAS is required to substantiate the utility and validity of the level of care categories.

**REFERENCES**


**Presentations of the Research to Date**

A key theoretical premise of managed care is that standard service protocols exist that can guide the quality of care and can be modified to improve quality or control cost. Past efforts to define a standard menu of services, including best or evidence-based practices, have been less than enlightening. This is particularly true in regard to services for citizens who are severely mentally disabled. Recently however, progress has been made in identifying some “best practices” for the treatment of adults with severe and persistent mental health issues. These include Assertive Community Treatment (Phillip et al., 2001); Integrated Dual Disorder Treatment (Drake et al., 2001); Family Group Psycho-education (Dixon et al., 2001; McFarlane et al., 1995); and Supported Employment (Bond et al., 2001). While more best practices are needed, of equal importance is the need to find the best way(s) to match available best practices with subgroups of consumers who would benefit most from each intervention.

The Surgeon General’s report on mental health states that, “To be effective, the diagnosis and treatment of mental illness must be tailored to individual circumstances...that shape a person’s image and identity” (U.S. Department of Health and Human Services, 1999, p. 456). In the case of citizens with severe and persistent mental illness, we generally acknowledge “…that the population is heterogeneous, and what works in some instances may not be appropriate in others,” (National Institute of Mental Health [NIMH], 1991, p.9). However, a barrier to the further development of best practices and our ability to match them to consumers is our limited success in describing this heterogeneity.

Traditionally, adults with severe mental disabilities have been described in several ways. The most widely recognized system is the diagnosis-based DSM IV (American Psychiatric Association [APA], 1994; Gray, 1984). Here individuals have been described in terms of the characteristics of their illness. The DSM-IV system provides important guidance for “best practices” in the prescription of medication and other somatic interventions; however, it is not as helpful for predicting the need for or utilization of community mental health, rehabilitation or recovery-oriented services (Grove, 1987; Matarazzo, 1983; Spitzer & Fleiss, 1974; Wilson, 1993). Another approach, Diagnostic Related Groups (DRGs), is based on illness episodes (Goldman, Pincus, Taube, & Regier, 1984). DRGs were initially developed more than 20 years ago to help manage inpatient care. They have, however, shown limited ability to provide clinical pictures (Holcomb & Thompson, 1988) or predict community resource utilization and cost for mental health consumers (English & McCarrick, 1986; English, Scharfstein, Sherl, Astrachan & Muszynski, 1986; Taube, Lee, & Forthoffer, 1984). In any case, DRGs are still not available for community mental health or community support services. Approaches, such as the Level of Need Care Assessment (Uehara, Smukler, & Newman, 1994; Uehara, Srebnik & Smukler, 2003) are based on need profiles. This system has primarily been used to identify need patterns and gaps in community services.
However, we believe a major barrier to the development of best practice models and the management of community support programs or managed behavioral healthcare systems has been the lack of more holistic pictures of the citizens to be served. This has also limited attempts to assess the effectiveness of mental health services and policy (Christianson et al., 1993; Sharfstein, 1994).

To address directly the limitations posed by the lack of more holistic pictures of the citizens to be served, the present research has employed a process known as Cluster-Based Planning and Outcomes Management (C-POM) (Rubin et al., 1992; Rubin et al., 1999). This approach is used to facilitate clinical practice, treatment planning, program development and outcomes-based management of services. As shown in Figure 1 below, C-POM assumes that large groups of consumers, such as adults with severe mental disabilities, should not be served as if they were members of a single homogeneous group. Instead, these larger groups are comprised of distinct, natural subgroups, or clusters. Using the Cluster-Based Planning approach, one can describe members of different clusters, identify and assess targeted outcomes, and link (and track) individuals to best practices and other services designed to address the outcomes.

The cluster-based approach is based in part on principles of cognitive psychology. It seeks to describe mental health consumers in terms of “prototypes” (Smith & Medin, 1981) or clusters that are based on a multitude of characteristics. This prototype model assumes that those who work with such special populations identify naturally occurring subgroups whose typical members share common strengths, problems, treatment needs and prospects for recovery (Fiske & Linville, 1980). Clusters are characterized by a set of correlated or typical features (Smith & Medin, 1981). Descriptions of members of different clusters take into account both the strengths and weaknesses of members of the group, and consider "whole" persons embedded in history, community and social contexts. Clusters frequently describe common elements as well as capturing the variability among members of the same group (Holland, Holyoak, Nisbett, & Thagard, 1989). Cluster descriptions of adults with severe mental disabilities include a broad array of information such as: social and living skills, work history and work skills, family role and support, history and/or effectiveness of treatment, interference from psychiatric symptoms, interference from substance abuse or chronic physical health problems, housing and living environments, personal strengths and integration in the community (Rubin & Taynor, 1990; Rubin et al., 1992; Rubin & Taynor, 1993; Herman & Mowbray, 1991; Luke, Mowbray, Klump, Herman, & Boots Miller, 1996; Shern, Wilson, Coen, Bartsch, & Bogaert-Martinez, 1990).

Between 1988 and 1996, research conducted using this conceptual approach identified generalizable clusters of adults with SMD and core sets of targeted treatment outcomes for each cluster. Clusters and outcomes were identified in a multi-step process using functional assessment ratings, statistical clustering procedures, and expert-based knowledge elicitation and validation techniques involving consumers, family members and providers. The basic methods were replicated in eight different geographic service areas in Ohio (Rubin & Panzano, 2002). In the process the following eight clusters were identified and described (Synthesis, Inc., 2001):

- Adults with Chronic Physical Health Conditions and Psychiatric Disabilities
- Adults with Serious Substance Abuse, Mental Health, and Community Living Problems
- Adults with Severe Substance Abuse Problems and Less Severe Mental Health Problems
- Adults Who Are Severely Disabled in Many Life Areas
- Younger Adults Who Are Severely Disabled But Are Not Convinced of the Usefulness of Treatment
- Adults Who Struggle with Anxiety and Depression and Who Avoid Growth Opportunities
- Adults Who Struggle with Anxiety and Who Tend to Focus on Their Physically Disabling Conditions
- Adults Who Function Well in the Community
Empirical evidence has consistently indicated that clusters have utility for predicting costs, outcomes, and the utilization of presently available resources and services (e.g., case management and hospitalization) (Rubin et al., 1992; Rubin, Coyne, & Kurth, 1997; Synthesis Inc., 2002, 2003). However, considerable doubt remains as to whether those present service patterns represent “best practices” for members of each cluster. The Goodness of Fit study was conceived to help resolve some of...
these issues and to better answer the question of “What Works, For Whom, And At What Cost?”

Study Methods

The research was conducted in two urban areas, both of which had participated in the cluster development and validation efforts described above. Three large mental health centers serving a total of 5,000 to 6,000 adults with SMD initially agreed to serve as research sites. However, over the course of the study, one center withdrew. The overall research objectives were:

- To use a community-based, expert-driven planning process to define Preferred Service Models for each of seven or eight clusters (depending upon the community).
- To pilot-test one of these models in each site for a period of two years.
- To assess whether clients who received these model services did better than clients, in the same cluster, at the same agency, who did not receive the model services.
- And therefore, test the overall “Goodness Of Fit” hypothesis: There is a positive association between the degree of fit between prescribed services and actual services, and the extent of progress made toward targeted outcomes.

Model Building

Preferred Service Models were articulated by community work groups in each of the two counties. These Local Service Planning Groups (LSPGs) were comprised of mental health providers, consumers, family members and other community resource professionals. Day-long structured group planning meetings were held monthly for a year in order to create preferred (best practice) service models for each cluster. Model building criteria included the following:

- Models were to be designed to maximize the functioning of cluster members within a given point in their recovery.
- Models were to be projected over a five to seven year time period.
- Models were to assume the availability of up to 150 percent of present fiscal resources.
- Models were to assume trained, culturally competent staff.
- Models were to take into account competencies of consumers and family members as providers.

Preferred models were specified for members of all clusters in both counties for individuals who were psychiatrically stable enough to focus on improving their performance on the targeted outcomes identified for their cluster. In the planning process each service element was described and the outcome(s) it would address were identified. The following are some general results from the model building phase of the project:

- The Preferred Service Models tended to be holistic and include a variety of specific treatment interventions and alternative services.
- The Preferred Service Models employed a broad range of treatment modalities and organizational structures.
- The models differed by cluster, reflecting their different biopsychosocial histories, service needs, and consumer assets.
- Models were similar across sites for similar clusters.
- Models included mixes of more traditional services and innovative components.
- Models tended to redefine the role of case managers or community support program workers by expecting them to actively teach skills and/or facilitate rehabilitation and recovery.
- Models required more involvement of consumers and family members in direct implementation and provision of services.
**Pilot-Testing**

In the Pilot-test Planning Phase, staff from the two study agencies spent a year planning for the implementation of specific Preferred Model Services for a specific cluster. The first step required selecting the cluster and service model elements to be tested. Specific implementation plans were developed and resource needs were identified. The planning for the implementation of the pilot-tests at the two study agencies was described in *New Research in Mental Health*, Volume 14.

Study Site A chose to pilot-test a best practice model for individuals in the more traditional “SAMI” cluster. Members of this cluster have Serious Substance Abuse, Mental Health, and Community Living Problems. The components of the Preferred Service Model to be pilot-tested included the following services:

- Dual Diagnosis ACT Team
- Dual Diagnosis Therapy Groups
- Psycho-Social Rehab Groups
- 12-Step Consumer Groups
- Independent Payees

This preferred model had much in common with the dual diagnosis treatment model established in New Hampshire and recognized as a national best practice (Drake et al., 2001). Since Study Site A was also receiving funding to implement this Dartmouth Model as part of an ODMH/ODADAS joint initiative, the research team decided to treat all clients in the cluster as one large group whose members received varying degrees of the Goodness of Fit model services.

Study Site B pilot tested services for the cluster of adults who have been Severely Disabled In Many Life Areas. These individuals have often had long histories of hospitalization. They have experienced considerable interference in their lives from severe psychiatric symptoms and have lost years of adult developmental opportunities including lost social, vocational and self-care skills. Members of this cluster often isolate themselves and are isolated by others. They have required considerable support from mental health agencies to manage their daily lives. The model developed for members of this cluster employed a number of group-based interventions.

Study Site B chose to combine three of the model services (Medication Education Groups, Groups Focused on Preventing Decompensation, and Disability Awareness Groups) into one 17-week program known as the Symptom Awareness and Management group (SAM). This program was implemented in August of 1999. Study Site B also combined two other model services (an Independent Living Skills Training Group and a Be Your Own Case Manager Training Program) to form the Living Independently for Everyone (LIFE) program. The LIFE groups began in the summer of calendar year 2000. Early in the pilot-test, the agency created an additional group (the Alumni Group) to accommodate consumers who had finished one group but wished to continue meeting until new SAM and/or LIFE groups were started. Taken together, the pilot services had much in common with the Illness Management and Recovery model now being promoted through one of the ODMH best practice Coordinating Centers of Excellence.

**Data Collection**

Baseline, cluster-specific outcomes data, as well as data on services and costs, had been collected on members of each cluster for several years at each site. The outcomes ratings were made by case managers at six month intervals either in conjunction with the preparation of the consumer’s Individual Service Plan update or as part of a “sweep” of all clients. However, to test the Goodness of Fit hypotheses, it was necessary to gather additional data at each site. These data can be classified into three
general categories: 1) Service data, 2) Fit assessment data and 3) Enhanced outcomes data.

1. Procedures were developed at each site to allow for the coding, recording, and tracking of the pilot services. In most cases, data collection modifications were made to each agency’s existing billing system. In a few cases, “service logs” were created for use by staff in tracking specific pilot services.

2. As Goodness of Fit is both an individual-level and cluster-level construct, the research team worked with staff at each site to develop methods to assess the level of “fit” of each potential subject for pilot test services. These fit assessment measures incorporated the consumer’s readiness to engage in recovery-oriented services as well as the match between the client’s individual treatment goals and the focus of the model services. External barriers to participation such as transportation were also identified at Site B. Fit assessments are made by case managers every six months at Site A and approximately every three months at Site B.

3. In order to improve the likelihood of detecting change on cluster-based outcomes over the limited pilot-test period, the research team decided to enhance the measurement process by: 1) deconstructing some of the more global scales that were being used to measure targeted cluster-based outcomes and 2) adding one or two additional items related to the scales. These Enhanced Outcomes were intended to allow for finer discrimination of progress.

Study Site A. At Site A, these data were collected only from July 1, 2000 through June 30, 2002. This was caused by a major fiscal crisis in the county that resulted in a $1 million cut to the agency budget just prior to the planned start of the pilot-test in July 1999. Over the course of the next year, the agency worked diligently to find funding that would enable them to continue with the research project. During that year they were awarded a SAMI grant funded jointly by ODMH and ODADAS. As mentioned above, this grant required the use of the Integrated Dual Disorder Treatment model developed at Dartmouth. This model was very similar to the Preferred Model developed by the Local Service Planning Group and the two efforts were to be merged to conduct the Goodness of Fit study. Thus, data collection began at Site A when the SAMI project started in July 2000.

However, many problems were encountered with the implementation of the SAMI project and the Goodness of Fit Preferred Model at Site A. Stipulations and requirements placed on the agency by the county mental health and substance abuse authorities made it difficult for the agency to recruit enough staff and provide the full range of Preferred Model services to consumers in the targeted cluster. Maintenance of data schedules related to ratings of “fitness” and outcomes was made more difficult by staff vacancies and turnover. Agency budget cuts and layoffs also caused a delay in receipt of the final data sets and we are presently just beginning our analyses of this information. Therefore, the results that will be reported below focus on our analysis of data from Site B only.

Study Site B. Pilot-test data were collected at Site B from July 1, 1999 through June 30, 2002. Table 1 below show the four Targeted Outcomes Subscales and the six Enhanced Outcomes Subscales that were used at Site B. Results of associated assessments of internal consistency are also shown.
Table 1. Site B Outcomes subscales

<table>
<thead>
<tr>
<th>4 Targeted Outcomes&lt;sup&gt;a&lt;/sup&gt;</th>
<th>6 Enhanced Outcomes&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Living Skills (#7) – (3 items alpha = .79)</td>
<td>Anxiety and Depression (alpha = .89) (#1)</td>
</tr>
<tr>
<td>Involvement in Treatment (#8) – (3 items alpha = .75)</td>
<td>Anger (alpha = .85) (#2)</td>
</tr>
<tr>
<td>Independence (#9) – (5 items alpha = .80)</td>
<td>Health (alpha = .79) (#3)</td>
</tr>
<tr>
<td>Mental Health Symptoms – (6 items alpha = .87)</td>
<td>Crises and Decompensation (alpha = .88) (#4)</td>
</tr>
</tbody>
</table>

<sup>a</sup>Standard Outcomes rated every 180 days with 90-day treatment plan updates

<sup>b</sup>Deconstruction from Targeted Outcomes

The subjects at Study Site B were all consumers who were members of the cluster of Adults who are Severely Disabled in Many Life Areas. They were served by a single case management team designated to provide services to members of that cluster only. On average there were about 130-160 clients being served by the team. Selection of consumers to receive the pilot-test services involved a multi-step process. As described above, all consumers on the team were assessed for “Fitness” according to the procedures and definitions shown in Table 2 below. Consumers who were considered “Fit” (including those with manageable interfering issues) were asked about their interest in the groups and about participating in the research. Consumers’ questions were answered by their case managers and written informed consent was obtained.

The SAM and LIFE group sequences were conducted at various times over the course of the three year pilot-test period. A total of 60 different consumers participated in one or both of the groups. Based on the “Fitness Assessment” results and the availability of the SAM and LIFE groups, consumers on the Team fell into three potential Treatment/Comparison Groups:

1. Pilot Group: Consumers Who Were “Fit” And Who Received Pilot-Test Services
2. Non-Pilot Group: Consumers Who Were “Fit” But Did Not Receive Pilot-Test Services
3. Non-Fit: Consumers Who Were Not “Fit” And Did Not Receive Pilot-Test Services

Members of Groups 1 & 2 were the most similar and thus were considered the most appropriate to be used to test the impact of the pilot services. Because of the relatively small sample in the Pilot-test Group (60), a matched comparison group design was used. The general approach was to: 1) Select “Pre” and “Post” outcomes measures for pilot-study participants and 2) Determine “Pre” and “Post” outcomes measures for a matched sample of clients who were “Fit” but did not receive pilot services.
Table 2. Goodness of Fit Assessment

Assessments made quarterly on each client on the team.

- Does SAM or LIFE Fit the client now?
- Fit means:
  Service would address consumer issues/goals
  Person was motivated
  No unmanageable interfering issues

- Fit Ratings:
  Does not fit
  Fit with no interfering issues
  Fit with interfering issues
  Transportation
  Work
  Education/training
  Physical health conditions
  Care-giving responsibilities
  Attending other mental health programs

However, the selection of the members of the matched Non-Pilot Comparison Group and determination of the specific outcomes data to be used in the analyses involved a more complex process than was initially expected. Figure 2 on the next page shows the complexity of the relationships including when a client participated in SAM and/or LIFE groups, when outcomes data were collected on the client, and when “Fit Assessments” were completed. In Figure 2, each set of two rows represents one client. The boxes across the top show the quarters during which the client received SAM group services. The shading indicates the quarters during which the individual received LIFE group services. Each “x” indicates when outcomes ratings were made. The numbers (“2” or “3”) in the second row for each client indicate the timing and results of “Fit Assessment” ratings. The following procedures were employed to select the matched sample:

1. Identify the pool of Non-Pilot Group clients who were generally determined to be “Fit” for SAM and/or LIFE services, but who never received the services (Group 2).

2. Determine “Pre” and “Post” dates (quarters) for each Pilot client by identifying when outcomes measures had been taken.

3. Match Pilot Group clients with Comparison Group clients by selecting clients with “Pre” and “Post” outcomes ratings in the same quarters as the Pilot Group members
   - Match without replacement
   - Taking dates into account, instead of lag time, therefore reducing historical effects
   - Consider only “pre” and “post” data not data collected between those points
   - Gaps in pilot services were disregarded and the case was considered as one long episode
Using these procedures, a matched group of 60 Non-Pilot Comparison Group Clients was identified. Lag times between “Pre” and “Post” outcomes measurements ranged from three to 36 months for each group. Mean lag time was 14.85 months for each group.

Results

Table 3 below shows the summary of the results of paired t-tests conducted to assess change on any of the Targeted Outcomes Subscales or the Enhanced Outcomes. These analyses test the basic hypothesis that individuals receiving these Preferred Model Services would function better and show more change than a matched group of clients from the same cluster, on the same treatment team who did not receive Pilot-test services. Because of the small sample sizes (particularly with the Enhanced Outcomes data) a somewhat more liberal significance level (p < .10) was used.

The SAM and LIFE groups had a significant impact on improving clients’ functioning. Pilot-test services were more effective than the traditional services in terms of clients’ ability to:
- Recognize sources of anxiety and depression, verbalize feelings to others, and learn skills to deal with feelings
- Recognize health issues and follow recommendations of medical professionals
- Identify warning signs of decompensation, have resources and supports to assist them in times of crisis, and have a written plan to respond to decompensation
- Participate in their own treatment, identify own goals and the action steps needed to accomplish them, take action to accomplish goals, maintain contact with case manager
- Show interest in knowing about and managing their own medications, take responsibility for their own medication regimen, understand benefits and side effects of medications, and communicate with case managers and medical staff about medication, and
- Reduce interference from mental health symptoms such as hallucinations, delusions, anxiety and depression; reduce inappropriate expressions of anger, respond better to crises, prevent decompensation, improve social interaction skills, and maintain their medication regimen.
Table 3. Summary of t-Test Results

<table>
<thead>
<tr>
<th></th>
<th>Enhanced Outcomes</th>
<th></th>
<th></th>
<th>Targeted Outcomes</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Pre-Mean</td>
<td>Post-Mean</td>
<td>Mean Difference</td>
<td>N</td>
<td>Pre-Mean</td>
</tr>
<tr>
<td>Anxiety-depression</td>
<td>Non-Pilot</td>
<td>22</td>
<td>4.03</td>
<td>3.74</td>
<td>Non-Pilot</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Pilot</td>
<td>22</td>
<td>4.26</td>
<td>4.52</td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>Anger</td>
<td>Non-Pilot</td>
<td>19</td>
<td>3.58</td>
<td>3.76</td>
<td>Non-Pilot</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Pilot</td>
<td>19</td>
<td>3.63</td>
<td>4.29</td>
<td></td>
<td>60</td>
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<tr>
<td>Health</td>
<td>Non-Pilot</td>
<td>21</td>
<td>3.86</td>
<td>3.83</td>
<td>Non-Pilot</td>
<td>60</td>
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<tr>
<td></td>
<td>Pilot</td>
<td>21</td>
<td>4.05</td>
<td>4.52</td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>Crises and Decompensation</td>
<td>Non-Pilot</td>
<td>22</td>
<td>4.12</td>
<td>4.17</td>
<td>Non-Pilot</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Pilot</td>
<td>22</td>
<td>4.05</td>
<td>4.55</td>
<td></td>
<td>59</td>
</tr>
<tr>
<td>Active Participation in Treatment</td>
<td>Non-Pilot</td>
<td>22</td>
<td>4.22</td>
<td>4.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pilot</td>
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<td>4.49</td>
<td>4.88</td>
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<tr>
<td>Medications</td>
<td>Non-Pilot</td>
<td>21</td>
<td>4.01</td>
<td>4.20</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Pilot</td>
<td>21</td>
<td>4.27</td>
<td>4.87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .10, **p < .05

**Summary and Conclusions: What Might We Conclude Overall From The Goodness Of Fit Study?**

- Systematic heterogeneity exists within the population of adults with severe mental disabilities.
- These meaningful, natural subgroups or Clusters of People share common strengths, problems, treatment histories, social and environmental contexts and/or life situations.
- Community experts, including providers, consumers, and family members, identify different service goals for members of different clusters.
- Community experts also identify different service models and best practices for members of different clusters.
- When agencies are able to provide these preferred service models or best practices, the evidence is mounting that consumers make more progress.
- This can be true even when agencies have been distracted or when they operate in less than supportive environments.
- We are talking about programs or combinations of services provided in different amounts over a period of time, not individual services.
- Clusters help us think more holistically about people and programs.
- The public mental health system needs to find ways to support the provision of programs not just individual services.
REFERENCES


**Paper Presentations of the Research**


The assessment of client outcomes has been an element of the public mental health landscape since the mid-1970s (Ohio Department of Mental Health [ODMH], 1979). However, during the 1980s, efforts to reduce the size of government and its regulatory functions caused the focus to shift from outcomes to accountability and the measurement of processes such as types and amounts of services provided and their costs. The assumption was that quality would naturally follow if processes were quantified and assessed.

By the 1990s, escalating healthcare costs and consumer dissatisfaction brought resource management approaches such as managed care and capitation, and also a somewhat renewed interest in the quality of care (Center For Mental Health Services, 1966). National organizations and accrediting bodies undertook the task of developing performance indicators for public mental health systems (Wachwitz & Hall, 1966). Several states including Florida (Dow, Boaz & Thornton, 2001), Indiana (DeLiberty, Newman & Ward, 2001), Washington (Srebnik et al, 1997) and Ohio (ODMH, 2000) also pursued the development of outcome measurement systems as part of this re-emergence of concern for quality of care.

Recently, emphasis has focused on the need to demonstrate the effectiveness of public mental health programs. This has been in order to avert state and federal budget cuts (Dow et al., 2001). A related effort, however, has been to compare provider agencies on outcome performance to determine their levels of funding (Dow et al., 2001; Hendryx, 1998; Hendryx, Dyck & Srebnik, 1999; Hendryx & Teague, 2001). Some states have even begun to establish outcome standards and publish report cards that compare provider performance (DeLiberty et al., 2001). During 2005, the Ohio Department of Mental Health plans to begin to post agency outcomes performance data based on common outcomes assessment instruments on a statewide web site.

With so much at stake, many have cautioned against the comparison of agencies unless there are provisions to take into account the types of clients that the agencies serve (Hendryx, Biegel & Doucette, 1998; Hendryx, 1998; Hendryx & Teague, 2001). This is because some clients have more severe psychiatric conditions, longer histories of unsuccessful treatment, less family and community support, more negative environmental and social experiences, poorer physical health, and/or more challenging life situations. These consumers may function less successfully and respond more slowly to various treatments and services. Thus their outcomes performance is poor, their risks higher, and an agency that serves many of them may not fare well in comparison to agencies serving fewer of these clients. In order to compare agencies fairly and ethically in terms of their outcomes performance, one must “risk adjust”
scores based on case mix or other contextual factors. However, most mental health systems have just begun to address this complex task.

**Purpose of the Study**

The purpose of this study is to create and test risk adjustment models to more equitably assess the performance of public mental health agencies that serve adults with severe and persistent mental health problems. The resulting models will meet generally accepted criteria and will be particularly useful for improving the quality of services.

In their recent article, Hendryx, Beigel, and Doucette (2001) define risk adjustment as “a means of statistically controlling for group differences when comparing nonequivalent groups on outcomes of interest…. They are nonequivalent in the sense that the persons in each group are assumed unequal in their opportunity for a good outcome for reasons beyond the control of the provider. In other words, risk variables are those that influence outcomes but are not a part of the treatment.”

To prepare for the posting of outcomes results on the ODMH website, the goal of the study is to develop risk adjustment equations that can be used to equitably represent the performance of public mental health agencies in Ohio.

**Outcomes Variables to Be Used**

The outcomes to be assessed for risk adjustment consist of 11 subscales developed by the ODMH for use in the Ohio Mental Health Consumer Outcomes System (ODMH, 2000). The following nine subscales computed from the Adult Consumer A Form will be included:

1. Quality of Life (QOL)
2. Financial QOL
3. Symptom Distress
4. Overall Empowerment
5. Self-Esteem and Self-Efficacy
6. Power and Powerlessness
7. Community Activism and Autonomy
8. Optimism and Control Over the Future
9. Righteous Anger

Two Subscales from the Adult Provider A instrument will also be risk adjusted: Activities of Daily Living (ADL) and a Meaningful Activities scale.

**Risk Variables to Be Used**

Potential risk adjustment variables will be collected from four sources: 1) the Adult Consumer A Form; 2) the Adult Provider A Form; 3) the Behavioral Health Module that is part of the Ohio MACSIS data system; and 4) the categorical Cluster Assignment made by agencies that are members of the Ohio Cluster-based Planning Alliance. A cluster is “a subgroup of a larger clinical population that shares common strengths, problems, treatment histories, social/environmental contexts, and life situations” (Rubin & Panzano, 2002; Synthesis, Inc., 2001).

Potential risk adjustment predictor variables from the Outcomes forms or the Behavioral Health Module include:

1. Diagnosis
2. Demographic Characteristics (e.g., age ethnicity, years of education, marital status and gender)
3. Rural vs. Urban Location
4. Family and Social Support Network
5. Physical Health
Cluster assignment is seen as a potentially potent risk adjustment variable. Cluster takes into account the long-term biopsychosocial histories of the various subgroups of the adult SMD population. Clusters take into account a host of clinical, social and environmental issues including substance abuse, chronic physical health conditions, family support, and homelessness. Further, clusters reflect the past impact of treatment histories on the lives of clients (Synthesis, Inc., 2001). While cluster descriptions are typically a full page of tightly integrated prose, the brief titles of the eight adult SMD clusters are (Synthesis, Inc., 2001):

Cluster 1 Adults with Chronic Physical Health Conditions and Psychiatric Disabilities
Cluster 2A Adults with Serious Substance Abuse, Mental Health, and Community Living Problems
Cluster 2B Adults with Severe Substance Abuse Problems and Less Severe Mental Health Problems
Cluster 3A Adults Who Are Severely Disabled in Many Life Areas
Cluster 3B Younger Adults Who Are Severely Disabled But Are Not Convinced of the Usefulness of Treatment
Cluster 4A Adults Who Struggle with Anxiety and Depression and Who Avoid Growth Opportunities
Cluster 4B Adults Who Struggle with Anxiety and Who Tend to Focus on Their Physically Disabling Conditions
Cluster 5 Adults Who Function Well in the Community

Participants in This Study

The subjects (agencies) include five publicly funded mental health centers with a combined SMD caseload of nearly 5,000 clients. Three of these providers are urban and two are rural centers. All five of the agencies are members of the Ohio Cluster-Based Planning Alliance. The Alliance is a joint initiative of Synthesis, Inc. and the Ohio Council of Behavioral Healthcare Providers. It has been designated as one of Ohio’s Coordinating Centers of Excellence with a mission of expanding the use of the Cluster-Based Planning system developed by Synthesis. Alliance agencies assess all SMD clients for membership in one of the eight clusters. In addition, each of these agencies collects Ohio Consumer Outcomes information. As members of the Alliance, each agency has a HIPAA Business Associate Agreement directly with Synthesis, which allows for the transfer of protected health information. A specific Data Use Agreement has also been established for this study.

Data to Be Used in the Study

All data utilized in this study are reported quarterly to Synthesis as part of each agency’s membership in the Ohio Cluster-Based Planning Alliance. The study will utilize all Adult Consumer A and Adult Provider A Outcomes data submitted by the five study agencies through December 31, 2003. The most recent Behavioral Health Module data for these clients also will be used. Cluster membership data will be obtained from the Prevalence, Service and Billing Database of the Ohio Cluster-based Planning Alliance.

Overall Study Design

Risk adjustment models must be built separately for each dependent variable of interest. As stated earlier, risk adjustment models will be built for 11 different subscales derived from the Consumer A or
Provider A Forms. The research team and the ODMH have also determined that length of time in treatment must be considered as part of the model building effort. Thus, separate models will be built for “New Admissions” (defined as having been in treatment 44 days or less) and for those consumers who have been served longer than 44 days. (In the latter case, ‘Length of Time in Treatment” will be entered into each analysis to determine if it has power as a risk adjusting variable). Finally, since members of the Ohio Cluster-Based Planning Alliance use cluster membership for service planning, continuous quality improvement, and data analysis, a study goal is to test the power of cluster membership as a risk adjustor for the Ohio Consumer Outcomes subscales. (Preliminary analyses of Consumer Outcomes data have produced significant differences on specific outcomes by cluster, Synthesis, Inc., 2003, 2004). As shown in Table 1 below, sixty-six models (11 x 3 x 2) are expected to be needed to accomplish the study. Models will be built for use by agencies that do not use the Cluster-based Planning Best Practice. Models will also be built that use only “Cluster” as a risk adjustment variable. Finally, models will be built which attempt to find the best combination of variables.

Table 1. Models to Be Built

| New Admissions (<45 days in Treatment) | State Outcomes and BHM Data Only | Cluster Membership Only | Best Combination |
| Longer-term Clients (45 days or longer) | State Outcomes and BHM Data Only | Cluster Membership Only | Best Combination |

**Statistical Methods to Be Used**

To date, several approaches have been used to conduct mental health risk adjustment studies. The most common include: 1) approaches that stratify clients based on some initial measure (e.g., baseline outcomes scores or a clinical or administrative category) and assess outcomes for each strata; 2) approaches that use difference or change scores for the outcomes measures; 3) approaches that use pre-post designs to assess impact on re-occurring events or more stable characteristics; 4) approaches that employ regression models to determine whether agencies are doing better or worse than predicted on the selected outcome and 5) approaches that employ highly interactive models (e.g. recursive-partitioning or CART techniques) to determine whether agencies are doing better or worse than expected. (Hendryx, 1998; Banks, Pandiani & Bramley, 2001).

While each of these approaches has its own strengths and weaknesses, the use of recursive-partitioning techniques (CHAID) offers the ability to more easily combine and understand the interaction impacts of the multiple risk adjustment variables which will be analyzed in this study. Further, this type of analysis facilitates the use of models for planning as well as for adjusting outcomes achievement. Finally, CHAID models allow for easy interpretation for administrators, consumers, program managers, and service providers. This study therefore stratifies by Length of Time in Treatment (i.e., New Admissions vs. Longer-term Clients) and employs recursive partitioning statistical methods.
REFERENCES


Elder Suicide Risk: Testing a Comprehensive Model

The rate of elder suicide in the United States for 2000, defined as suicide in individuals age 65 and older, was 15.3 per 100,000 as compared to a national rate of 10.7 for that year (AAS, 2002). Despite this high level of suicidal behavior in the elder population, little is known about the prediction of suicide for this group past the identification of common and age-associated risk factors (Blazer, Osgood & Thielman, 1990) which has been the predominant focus of the extant literature on the elder population. Examples of these identified risk factors include being male, widowhood, forced retirement, and physical illness (Canetto, 1992; Warnick, 1995; Steffens & Blazer, 1999). Empirically identified risk factors, which have been identified across age groups, include drug and alcohol abuse, depression, hopelessness, and social isolation (e.g., Rogers, 1992; Rogers, Alexander, & Subich, 1994), with a history of cumulative loss specifically identified for older individuals (Steffens & Blazer, 1999).

Research up to this point has been primarily atheoretical and focused on studying individual risk factors in isolation or pulling together a small number of risk factors as correlates (Rogers, 2001). One exception is the more recent study by Mireault and deMan (1996) that included the variables of age, gender, marital status, living arrangements, health satisfaction, perceived religiousness, alcohol use, self-esteem, depression, life stress, and social support to predict suicidal ideation. Utilizing multivariate regression analysis, Mireault and deMan (1996) accounted for 32.5 percent of the variance in suicidal ideation. The prediction equation included social support as the best predictor (accounting for 17% of the variance alone), followed by health satisfaction, gender, living arrangements, and alcohol use.

The purposes of the current research were to extend the work of Mireault and deMan (1996) by identifying and bringing together a broader range of risk factors identified in the literature on elder suicide into a comprehensive predictive model (see Figure 1) grounded in theory and to investigate the interrelations of these factors. Within this model, psychological resilience is defined to reflect positive approaches to life and the engagement in activities (i.e., coping strategies) that enhance one’s ability to effectively deal with stressful situations. Sociological factors are those relational and status variables that have been shown in the empirical literature to be related to a higher risk for suicide. Finally, psychological risk factors or correlates are those factors such as depression, hopelessness, and the experience of stressful life events that have been linked empirically to suicidal behavior. These three latent categories are related to the underlying theory and represent areas of self-constructions that cover various motivational categories including spiritual, social, psychological and biological motivations (Rogers, Anderson, Bromley, & Krietz, 1999, 2000). In addition to these variables, demographic information such as age, race/ethnicity, gender, physical health, alcohol and drug dependence and religiosity are identified as further risk factors.
Figure 1. Hypothesized structural model.

Method

Data were collected on 350 participants, aged 65 to 97 (Mean = 74.98; SD = 8.35), who were recruited from assisted living facilities, community mental health centers, senior centers and senior social organizations throughout northeastern Ohio. The majority of participants were women (75.4%), Caucasian (68.9%), and either married/partnered (21.7%) or widowed (51.7%). The mean number of years of education for the sample was 12.6 (SD = 2.8). The majority of the sample self-reported as retired (65.7%) with 14.6 percent working full or part-time. Of those retired participants, 51.4 percent reported that they retired voluntarily. The majority of participants (90.2%) characterized their physical health as fair or better and 75.1 percent indicated that their physical health had no negative impact on their lives. Only 13.1 percent indicated that they had a mental health diagnosis and 88.3 percent reported that their mental health status had a neutral to positive impact on their lives.

The instruments listed in Table 1 were used as indicators of the latent traits identified in Figure 1. Additionally, a measure of response style, the Balanced Inventory of Desirable Responding (Paulhus, 1994), was used to investigate the impact of social desirability responding. For the current study, the two health and mental health status variables were combined to form a general status variable with higher scores indicating greater satisfaction with the impact of physical and mental health on respondents’ lives. Internal consistency reliability for this status measure was .74.

Results

Internal consistency reliability analyses indicated that most of the measures performed reasonably well with estimates ranging from .60 to .95 (estimates are presented on the diagonal of the correlation matrix in Table 2). The Self Esteem Scale (SES), the Social Isolation Scale (SIS), and the Life Experiences Scale (LES), were excluded from the study due to low internal consistency reliability estimates (less than .60 for the SES and SIS) or to scoring irregularities (LES). In addition to the reliability information, the pattern of relations among the research variables (see Table 2) provided some support for the construct validity of their interpretations. For example, the scores on the SBQ were positively correlated with depression and hopelessness as would be expected and hopelessness and
depression were correlated at a moderate and statistically significant level with each other. With the exclusion of the SES, SIS, and the LES, the final measurement underlying the structural model is presented in Figure 2. Interestingly, the correlations between the research instruments and the measure of social desirability suggested that social desirability had little impact on participant responses. Exceptions to this were the correlations with the Suicide Behavior Questionnaire and the Geriatric Depression Scale.

Table 1. Research Measures

<table>
<thead>
<tr>
<th>Psychological Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Balanced Inventory of Desirable Responding (BIDR-6; Paulhus, 1994).</td>
</tr>
<tr>
<td>• Geriatric Depression Scale (GDS; Yesavage, et al., 1983).</td>
</tr>
<tr>
<td>• Geriatric Hopelessness Scale (GHS; Fry, 1984).</td>
</tr>
<tr>
<td>• Life Experiences Scale (LES; Sarason, Johnson, &amp; Siegel, 1978).</td>
</tr>
<tr>
<td>• Physician Assisted Suicide (Domino, Kempton, &amp; Cavender, 1996).</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Psychological Resilience</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Coping Measure (Billings &amp; Moos, 1981; 1984).</td>
</tr>
<tr>
<td>• Life Orientation Test (LOT; Scheier &amp; Carver, 1985).</td>
</tr>
<tr>
<td>• Religious Commitment Inventory (RCI-10; Worthington, et al., 1999).</td>
</tr>
<tr>
<td>• Self-Esteem Scale (SES; Rosenberg, 1965).</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sociological Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Drinking Problems Index (DPI; Moos, 1986).</td>
</tr>
<tr>
<td>• Social Isolation Scale (SIS; Dean, 1956).</td>
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<tr>
<td>• Health Status</td>
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</tbody>
</table>

Elder Suicide Risk

• Suicidal Behaviors Questionnaire (SBQ; Linehan, 1981).

Table 2. Correlation Matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
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<tbody>
<tr>
<td>SBQ</td>
<td>.80</td>
<td>.38*</td>
<td>.33*</td>
<td>.24*</td>
<td>-.34*</td>
<td>-.29*</td>
<td>.20*</td>
<td>-.04</td>
<td>-.33*</td>
<td>-.22*</td>
<td>-.23*</td>
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<tr>
<td>GDS</td>
<td>.85</td>
<td>.50*</td>
<td>.11</td>
<td>-.43*</td>
<td>-.43*</td>
<td>.08</td>
<td>-.05</td>
<td>-.61*</td>
<td>-.21*</td>
<td>-.21*</td>
<td></td>
</tr>
<tr>
<td>GHS</td>
<td>.84</td>
<td>.05</td>
<td>-.19*</td>
<td>-.26*</td>
<td>.13</td>
<td>-1.19*</td>
<td>-.26*</td>
<td>.08</td>
<td>-.05</td>
<td>-.61*</td>
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<tr>
<td>PAS</td>
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<td>-.10</td>
<td>-.11</td>
<td>.08</td>
<td>-.01</td>
<td>-.09</td>
<td>-.12</td>
<td>-1.2</td>
<td>-.42*</td>
<td></td>
<td></td>
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<tr>
<td>BIDR</td>
<td>.79</td>
<td>.22*</td>
<td>-.08</td>
<td>.04</td>
<td>.24*</td>
<td>.19</td>
<td>.13</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>STATUS</td>
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<td>.11</td>
<td>.47*</td>
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<td>.15</td>
<td></td>
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<tr>
<td>DPI</td>
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<td>-.10</td>
<td>.04</td>
<td>-.12</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>COP</td>
<td>.90</td>
<td>.11</td>
<td>.25*</td>
<td>.37*</td>
<td></td>
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<td></td>
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<tr>
<td>LSI</td>
<td>.75</td>
<td>.20*</td>
<td>.15</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>LOT</td>
<td>.60</td>
<td>.18*</td>
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<tr>
<td>RCI</td>
<td>.95</td>
<td></td>
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</table>

* p < .001

Note. Internal consistency reliability estimates are listed along the diagonal. SBQ=Suicide Behavior Questionnaire; GDS=Geriatric Depression Scale; GHS=Geriatric Hopelessness Scale; PAS=Physician Assisted Suicide; BIDR=Balanced Inventory of Desirable Responding; STATUS=Physical and Mental Health Status items; DPI=Drinking Problems Index; COP=Coping Measure; LSI=Life Satisfaction Index; LOT=Life Orientation Test; RCI=Religious Commitment Inventory
Despite their satisfactory performance in terms of internal consistency reliability, many of the manifest variables evidenced significant skew and kurtosis. Consequently, after substituting the means for missing values in the data set, we applied a bootstrapping procedure to our analyses as suggested by Byrne (2001). Overall, goodness-of-fit statistics for the predictors in the measurement model did not support their use as indicators of the hypothesized latent structure. For instance, only two of the five fit statistics for the criterion measurement model met established cut-off criteria (i.e., .90 for both the NFI and the TLI). That is, the Chi Square value of 15.42 ($df = 2; p < .001$), the AGIF value of .89, and the RMSEA value of .139 ($CI = .080-.207$) did not meet the acceptable cut-off criteria. Thus, the initial step in the structural equation modeling process failed to support the hypothesized measurement model, making subsequent tests of the structural model inappropriate.

**Discussion**

The results of this study have not provided support for the theoretical model identified in Figure 1. Specifically, the measurement model was found to be deficient in reflecting the hypothesized latent constructs of Psychological and Social Risk and Psychological Resilience. With the exception of the latent factor of psychological resilience, the theoretical constructs expected to be predictive of suicidal behavior in elderly individuals did not emerge from the data as anticipated.

One possible reason for the failure of the measurement model is that, with the exception of the GDS and the GHS, many of the research measures have not been well validated for use in the elderly population. This may, in part, explain the substantially non-normal distributional characteristics of many of the measures, which despite the use of bootstrapping, most likely contributed to the poor fit of the data to the model. Related to this, older adults may be less willing to respond openly to questions regarding suicidal behaviors, depression, hopelessness and the like as a function of concerns over privacy and
relevancy issues and a more strongly established sense of suicide as a taboo subject. This reluctance to respond openly may not be represented by the typical measurement of social desirability as assessed in this study. These potential attitudinal factors could have contributed to the measurement issues in terms of impacting the validity of interpretations of the current data.

There are, of course, alternative explanations to the current results. Primary among them is the possibility that, despite our development of the model based on prior research into suicide risk characteristics, the hypothesized theoretical model is inaccurate. Initial support for this alternative explanation can be made on both theoretical and empirical grounds. From a theoretical perspective, the scientific study of suicide has been criticized recently for its lack of attention to theoretical formulations in general (e.g., Lester, 1988; Rogers, 2003). Theoretical perspectives that have been advanced have either been developed in a post hoc fashion based on empirical data (such as the formulation developed in the current research) or have not considered strongly the possibility that meanings and understandings of suicide and suicidal behavior may be qualitatively different as a function of group membership characteristics such as age. Thus, models of suicide risk developed from general population data and/or data from the study of suicide with younger age groups have been assumed to be applicable to suicidal behavior in older adults and have subsequently driven elder suicide research. As such, a theoretical explanation for the outcome of the current research is that the general risk factor-based model may be inappropriate as the basis for investigating elder suicide.

The current study has produced some empirical data that may support this alternative explanation. For example, suggested cut-off scores for the interpretation of the presence of depression for the GDS as suggested by Stiles and McGarrahian (1998) are between 11 and 14 with higher scores indicating more severe depression. By contrast, the mean depression score in the current sample was 4.85 (SD = 4.23) with less than three percent of our sample respondents scoring at 14 and above and less than 6.5 percent scoring at 11 or above. Similar findings are seen for the hopelessness scores in this sample. Additionally, in terms of self-report of physical health status, a full 90 percent of our sample reported being in fair or better physical health and only 12 percent reported any negative mental health impact. Albeit tentative, these data may suggest that our current formulations of important characteristics or risk factors for elder suicide may not be accurate. That is, rather than presenting a snapshot of older persons as increasingly depressed, hopeless and despondent over the impact of the aging process on their physical and mental health, our sample would appear to be relatively well adjusted and satisfied with their lives.

Looking specifically at the responses to the Suicidal Behavior Questionnaire, only 6.1 percent of our sample of older adults reported a serious consideration of suicide either currently or in the past while 80.6 percent reported never having thought about killing themselves. Additionally, in predicting their potential for future suicidal behavior, 92 percent of the respondents indicated that there was no chance at all that they would ever attempt suicide. While we certainly need to consider the potential impact of social desirability and the nature of self-report when interpreting these responses, they do seem to suggest that the typical ways of measuring and understanding suicidal behavior that have been developed through empirical study across other groups may not be particularly informative for understanding elder suicide.

Perhaps suicide in the elderly is not as strongly related to depression and hopelessness (as well as other “traditional” risk factors) as it seems to be with individuals in other age groups and that suicide for older adults has a qualitatively different trajectory. For example, suicide may be less related to depression and hopelessness or the physical impact of deteriorating health status per se than to changing perspectives on the meanings of life and death and a desire to maintain dignity and autonomy in the face of those changes. Thus, the high levels of lethality evidenced in elder suicide data, the historically low attempt to completed suicide ratio, and the observation that older adults rarely communicate their suicidal intent suggest a qualitatively different decision process leading to suicide than that observed in younger adults and adolescents.
From a philosophical perspective, this argument seems to pit a pathogenic perspective on suicide against a phenomenological or existential perspective (e.g., Rogers, 2003; Yalom, 1980). While these positions may not be mutually exclusive, it may have some heuristic and practical value to consider the possibility that suicide across the lifespan can vary on a continuum of pathology with higher levels of pathology related to suicide for younger individuals and lower levels of pathology related to suicide with older adults. Similarly, suicide may be less related to core existential and humanistic concerns such as autonomy, responsibility, and death anxiety for younger individuals as compared to older adults.

There are both quantitative and qualitative implications of the current study for future research in the area of elder suicide. From a quantitative perspective, future research should focus on the development of more population-specific research measures and/or validate extant measures with regard to their use in the elderly population prior to attempting to test latent variable models. This focus could include the use of protocol analyses to investigate the interpretations and thought processes involved in responding to psychometric paper and pencil measures by older adults and continued attention to developing sample-specific construct validity evidence for subsequent interpretations. Additionally, it will be important for researchers to consider the potential impact that differing perspectives on privacy and suicide as a taboo subject may have on the quality of responses of older adults to paper and pencil instruments.

Qualitatively, it may be fruitful to temporarily suspend the traditional pathogenic focus of suicide research with older adults and adopt a more exploratory and meaning-based perspective (Rogers, 2003). Since investigations into characteristics of elder suicidal behavior have typically represented an extension of characteristics identified in more general samples, it would seem important to explore potentially unique correlates of suicidal behavior for older individuals rather than assume generalizability as was the case in the current study.

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**Other Publications of the Research to Date**


**Paper Presentations of the Research to Date**


The concept of recovery from serious mental illness has challenged previous notions about the course of mental illness. Recovery is defined in numerous ways but inherently describes the way a person adapts to his or her mental illness and finds new meaning in life. This process may occur at different times in an individual's life and can be influenced by various factors, including overall well-being.

Qualitative studies have identified common themes and experiences within the recovery process for consumers (Jacobson, 2001; Smith, 2000; Young & Ensing, 1997). Quantitative studies that assess mental health consumers’ attitudes about recovery principles are limited. This study attempted to measure the recovery attitudes and beliefs of consumers in a longitudinal manner. As part of the Hamilton County Mental Board’s Recovery Demonstration Project “A Time of Hope,” mental health providers were educated about recovery. They were encouraged to educate their consumers about recovery. Consumers were then interviewed to assess their attitudes about recovery and their overall well-being.

The integration of recovery principles into the mental health system has created the need to reliably measure the dimensions of recovery, the attitudes of consumers at different stages in recovery, and the ability for the system to meet consumers' recovery needs.

There is significance evidence that women experience mental illness significantly differently than men, beginning with diagnosis (Rhodes, Goering, To & Williams, 2002). As part of this study consumers’ attitudes about recovery and the possible role of gender were looked at in order to better understand the role of gender in the recovery process in community mental health.

Instruments

The research team of the Hamilton County Recovery Demonstration Project conducted interviews with consumers at community mental health agencies to measure attitudes about recovery in conjunction with an outcomes-based survey detailing overall well-being. The interviews consisted of the Recovery Attitudes Questionnaire (RAQ), the Ohio Mental Health Consumer Outcomes System survey (OMHCOS), and the Personal Vision of Recovery Questionnaire (PVRQ). All participants were administered the RAQ, the PVRQ and the Ohio Mental Health Consumer Outcomes System survey. The PVRQ is 24 item survey. The RAQ and the PVRQ are five-point Likert scale instruments measuring attitudes and beliefs about recovery. RAQ is a sixteen-item questionnaire with two factors. Factor 1 is Recovery is Possible and Needs Faith. Factor 2 is Recovery is Difficult and Differs Among People. (A copy of the RAQ appears at the end of this paper and may be copied and used.) The OMHCOS Consumer Form A is an instrument containing three dimensions. The dimensions are:
1) Quality of Life
2) Symptom Distress
3) Empowerment (using the Boston University Making Decisions Empowerment Scale). This
dimension has the following subscales:
   a. Power/Powerlessness
   b. Community Activism and Autonomy
   c. Optimism and Control over the Future
   d. Righteous Anger
   e. Self Esteem

**Data Collection**

The initial intention of this study was to utilize a random sample of consumers of mental health
services. Seven hundred consumers were randomly drawn from the Hamilton County Mental Health
Board’s list of consumers. Consent-to-contact forms were sent to the case managers of these
consumers. The case managers were asked to briefly explain the study and ask the consumer to sign the
consent for the research group to contact them; these consent forms were to be sent to the research group.
Two hundred forms were returned. Only 23 of these randomly selected consumers completed the survey.
Several factors contributed to this low number. Many consumers’ telephone numbers had changed or
were disconnected. Others were not interested in participating when contacted. Finally, there were many
consumers who made appointments but didn’t come to the mental health agency where they were to meet
the research team member.

A convenience sample was employed to collect more data. Research team members went to
the mental health agencies and asked consumers if they would like to participate, and signs were posted with
the telephone number to call if they were interested in taking part in the study. A total of 134 consumers
were interviewed for the convenience sample. All participants in the study had 508 certification, Ohio’s
criterion for serious mental disability.

Follow-up interviews were conducted to determine if any change in recovery attitudes, beliefs,
and overall well-being had occurred. Eighteen of the 23 random sample participants completed the
second interview six months after their initial interview.

Each interview took between 30 and 60 minutes. Interviews were conducted at community
mental health agencies where the consumers received case management services. Participants were
compensated $10 for their time.

**Results**

A stepwise regression was conducted to predict the RAQ mean from the OMHCOS subscales.
The Self-Esteem and Righteous Anger subscales accounted for a significant amount of variance in the
RAQ mean score $R^2 = .08$. The regression coefficient was significant at an alpha level of .01 for Self-
Esteem, $B = .261, SE = .065, t (df 133) = 3.63, p = .000$. The regression coefficient was significant at an
alpha level of .05 for Righteous Anger, $B = .161, SE = .066, t (df 133) = -2.43, p = .016$.

A stepwise regression was conducted to predict the PVRQ mean from the OMHCOS subscales.
The Empowerment subscale accounted for a significant amount of the variance in the PVRQ mean scores,
$R^2 = .576$. The Regression coefficient was significant an alpha level of .01 for Empowerment, $B = 718,
SE = .054, t (df 133) = 3.33, p = .000$. The correlations between the RAQ and PVRQ means, and
OMHCOS subscales appear in Table 1. There were no significant differences between the initial
interview and the six-month follow-up for the 18 consumers who completed the follow-up interviews.
Table 1. Correlations between the RAQ and PVRQ Means and OMHCOS Subscales

<table>
<thead>
<tr>
<th></th>
<th>RAQ</th>
<th>PVRQ</th>
<th>Finan</th>
<th>Power</th>
<th>SelfEst</th>
<th>Comm</th>
<th>Optim</th>
<th>Empower</th>
<th>Anger</th>
<th>SDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAQ</td>
<td>.373**</td>
<td>-0.034</td>
<td>0.064</td>
<td>.238**</td>
<td>.219*</td>
<td>0.131</td>
<td>.186*</td>
<td>-0.023</td>
<td>0.065</td>
<td></td>
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<tr>
<td>PVRQ</td>
<td>.357**</td>
<td>.636**</td>
<td>.676**</td>
<td>.639**</td>
<td>.610**</td>
<td>.762**</td>
<td>.642**</td>
<td>.439**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finan</td>
<td>.426**</td>
<td>.326**</td>
<td>.334**</td>
<td>.351**</td>
<td>.410**</td>
<td>.323**</td>
<td>.413**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>.583**</td>
<td>.608**</td>
<td>.567**</td>
<td>.828**</td>
<td></td>
<td>.772**</td>
<td>.519**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SelfEst</td>
<td></td>
<td></td>
<td>.761**</td>
<td>.766**</td>
<td>.902**</td>
<td>.560**</td>
<td>.532**</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Comm</td>
<td></td>
<td></td>
<td>.759**</td>
<td>.870**</td>
<td></td>
<td>.572**</td>
<td>.401**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optim</td>
<td></td>
<td></td>
<td></td>
<td>.842**</td>
<td></td>
<td>.576**</td>
<td>.473**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.763**</td>
<td>.573**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.430**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDS</td>
<td></td>
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</tbody>
</table>

** p < .01 level (2-tailed), * p < .05 level (2-tailed)

Significant correlations were found between RAQ factor 1 (Recovery is Possible and Needs Faith) and the following three subscales of the Empowerment dimension of the OMHCOS: Community Activism and Autonomy, Optimism and Self-esteem. Significant correlations were also found between RAQ factor 2 (Recovery is Difficult and Differs among People) and the Community Activism and Autonomy subscale of the OMHCOS.

A stepwise regression was run regressing the RAQ factor 1 on the five Empowerment subscales of the OMHCOS. The Community Activism and Autonomy and Self-Esteem subscales account for a significant amount of the variance in the RAQ factor 1 scores, $R^2 = .108$. The regression coefficient was significant at an alpha level of .01 for Self-Esteem, $B = .329$, $SE = .111$, $t$ ($df$ 132) = 2.97, $p = .004$.

A stepwise regression was run regressing the RAQ factor 2 on the five Empowerment subscales of the OMHCOS. The Community Activism and Autonomy and Optimism and Control over the Futures subscales accounted for a significant amount of the variance in the RAQ factor 2 scores, $R^2 = .07$. The regression coefficient was significant at an alpha level of .01 for Community Activism and Autonomy, $B = .338$, $SE = .102$, $t$ ($df$ 132) = 3.31, $p = .001$. The regression coefficient was significant at an alpha level of .05 for Optimism and Control Over the Future, $B = -.216$, $SE = .099$, $t$ ($df$ 132) = -2.18, $p = .031$.

Means on RAQ factors 1 and 2 were compared by gender and women had higher means on both factors. There was a significant difference between the two genders for RAQ factor 1 at an alpha level of .05, $t$ ($df$ 130) = -2.04, $p = .04$. A significant difference was also found between the two genders for RAQ factor 2 at an alpha level of .05, $t$ ($df$ 130) = -2.47, $p = .015$. 

New Research in Mental Health Volume 16
**Discussion**

The findings suggest that consumers who hold positive beliefs about certain aspects of their current life situation tend to have positive beliefs about recovery concepts. Within this sample, positive scores on the Empowerment, Righteous Anger and Self-Esteem subscales of the OMHCOS Consumer Form A instrument predicted positive beliefs about recovery.

The lack of change over time in the random sample may be due to several factors. The small sample resulted in limited statistical power (when comparing correlations with \( n = 23 \), a medium effect size could be detected with 42% power at a significance level of .05; at \( n = 18 \), the power falls to 36%). Limited sensitivity of instruments over time may also be a factor in the lack of change, and finally it is possible that there was no change in recovery beliefs over this time period. In earlier studies of the RAQ in Hamilton County the scores tended to be quite high and there maybe a “top out” effect of this instrument, where there is not a lot of possibility for an increase in positive attitudes toward recovery on this scale.

The gender results of this study highlight the need for future investigation of variables that may affect recovery attitudes and factors that may enhance recovery in both genders.

Further research in the area of assessment of recovery attitudes is important in light of the relationship between recovery and aspects of overall well-being. Based on the relationship between outcomes and recovery in this study, there is a clear need to promote positive well-being in consumers (specifically self-esteem and empowerment) and to emphasize recovery in all areas of community mental health systems. These results demonstrate the need for continued research in the area of recovery through the collaboration of consumers, researchers and mental health service providers.

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**Other Publications of the Research to Date**


**Paper Presentations of the Research to Date**


SOCIAL FUNCTIONING IN SCHIZOPHRENIA:
THE ROLE OF EXPRESSIVE AND RECEPTIVE EMOTIONAL SKILLS

University of Cincinnati
Department of Psychology

Kathleen Farrell Pagulayan, PhD       Paula K. Shear, PhD   Somaia Mohamed, PhD

It has been widely reported that deficient social functioning is a prominent feature of schizophrenia. Social functioning refers to the ability to work and to maintain interpersonal relationships and an adequate level of self-care (Mueser, 2000; Mueser & Tarrier, 1998). The prevalence of social dysfunction in this group is high, with one study finding that, in a sample of 58 people with schizophrenia or schizoaffective disorder, 60 percent were unemployed and 50 percent had minimal or no social contacts (Breier, Schreiber, Dyer, & Pickar, 1991). Although some individuals are able to return to premorbid levels of functioning after their illness has stabilized, many more experience lasting deficits in one or more domains of social functioning (Bellack, Morrison, Mueser, Wade, & Sayers, 1990). Because social dysfunction is such a debilitating impairment in individuals with schizophrenia, and has remained relatively resistant to both psychotropic medications and social skills training interventions (Mueser, 2000; Mueser, Drake, & Bond, 1997; Penn & Mueser, 1996), there is a critical need to better appreciate factors that may contribute to the severity of this functional deficit.

One possible contributor to these social difficulties is the known deficit that people with schizophrenia exhibit in receptive and expressive emotional skills. Receptive emotional skills include the ability to accurately perceive or recognize both facial and vocal displays of emotion, while expressive emotional skills refers to the ability to accurately and appropriately express emotion. This study proposes that the known deficits that individuals with schizophrenia have in emotional processing and emotional expression are critical contributors to this social functioning deficit, because communication involves “the ability to infer the intentions and dispositions of others and the ability to organize expressive acts of social communication” (Whittaker, Connell, & Deakin, 1994, p. 263). Expressive and receptive emotional skills have been linked individually to impaired social functioning, but no previous research has investigated the relationship between specific domains of social functioning and both of these emotional skills. This study will be the first to examine the role that the abilities to accurately express and perceive emotion have on the following three domains of functioning: interpersonal relationships, autonomous living and occupational role functioning. Increased awareness of the functional impairment associated with schizophrenia will ultimately allow the development of psychosocial interventions that are designed to remediate specific deficits, have an increased level of effectiveness for the individual, and lead to improved quality of life.

Receptive affective processing, including the ability to correctly recognize facial and vocal displays of emotion, is important because the accurate perception of a social interaction is a necessary feature of successful communication. People with schizophrenia have diminished social perception skills, including impaired facial and vocal affect recognition ability (Schneider, Gur, Gur, & Shtasel, 1995). These deficits may have significant implications for outcomes in schizophrenia. For example, negative social interactions resulting from misinterpreted facial cues may lead to reduced overall social interactions and consequently reduced social support (Penn, Combs, & Mohamed, 2001).

Only a few empirical studies have investigated the relationship between facial affect recognition and social functioning in individuals with schizophrenia. Two studies focused on hospitalized individuals and suggested that better facial affect perception is associated with more adaptive social behavior in that...
The studies conducted with outpatients reported discrepant findings. Ihnen et al. (1998) investigated the relationship between social skills and affect perception. Social skills, as measured by a role play test called the Conversation Probe, were not related to affect perception. Poole et al. (2000) used the Quality of Life Scale (Heinrichs, Hanlon, & Carpenter, 1984) to assess functioning and found a relationship between decreased affect recognition abilities and impoverished interpersonal relationships among outpatients; however, affect recognition was not associated with vocational success in that study. Finally, Hooker and Park (2002) found a relationship between facial affect recognition and occupation and communication dysfunction, but not interpersonal relationships, among individuals at a residential mental health care facility. The present study will help clarify the functional consequences of impaired affect recognition by investigating clearly defined aspects of social functioning among community-residing individuals with schizophrenia.

The majority of the existing studies have evaluated affect perception abilities among people with schizophrenia by focusing on their ability to accurately recognize facial displays of emotion, as described above. Some authors have investigated both facial and vocal affect perception, since facial expressions and vocal expression of emotion are important to perceiving emotions in daily interaction (e.g. Kerr & Neale, 1993; Poole et al., 2000; Whittaker, Connell, & Deakin, 1994). These studies suggest that people with schizophrenia have diminished ability to perceive affect in both of these modalities, and that there is a significant positive relationship between the deficits. This study will assess the role of both facial and vocal affect perception in functioning in the specific domains of interpersonal relationships, autonomous living and occupational role functioning.

Turning now to expressive emotional skills, research suggests that a key component of successful social communication is the appropriate expression of emotion. When two people interact, one’s expression of emotion influences the other person’s perception of their interaction. For example, lack of expression in response to emotionally laden material could be interpreted as indifference or insensitivity (Blanchard & Panzarella, 1998). This is relevant to schizophrenia because a prominent symptom of the disorder is flat affect or “a lack of outward expression of emotion that can be manifested by diminished facial, gestural or vocal expression” (Salem & Kring, 1999, p 160). People with schizophrenia have been found to exhibit significantly fewer facial expressions in response to emotional stimuli than control groups (Kring, Kerr, Smith, & Neale, 1993; Kring & Neale, 1996). Diminished facial displays during interactions may alienate people and result in decreased social contact. In general, people who display higher levels of positive affect are more socially engaged and more likely to be involved in social relationships (Harker & Keltner, 2001).

The expressive emotional deficits of people with schizophrenia have been tied to social functioning impairments (Bellack, Morrison, Wixted, & Mueser, 1990; Bellack, Mueser, Wade, Sayers, & Morrison, 1992). However, the investigations of that relationship have focused largely on the broader association between overall level of negative symptoms and outcomes, rather than on the specific relationship between affective flattening and social functioning (Lysaker & Bell, 1995; Prudo & Blum, 1987). The few studies that have investigated the relationship between affective flattening and social outcomes found that flat affect is associated with poor premorbid functioning (Fenton & McGlashan, 1991), decreased social contacts (Breier et al., 1991), and impaired interpersonal relations with people both inside and outside of their household (Bellack et al., 1990). The empirical support for a relationship between work outcomes and flat affect has not been as consistent (Bellack et al., 1990; Breier et al., 1991). These findings, as well as previous research that has shown that level of functioning in areas such as family relationships, social relationships, and vocational success may be partially independent (Brekke, 1992), supports the notion that it is important to study the specific domains of social functioning separately.
In studying the relationship between social functioning and receptive and expressive emotional skills, it is important to control for general intellectual decline and severity of psychiatric symptoms. People with schizophrenia typically demonstrate intellectual functioning that is in the range of 10 to 15 points below estimates of their premorbid potential (Aylward, Walker, & Bettes, 1984; Bilder et al., 1992). Therefore, for the purposes of this study, it is important to establish that any identified relationship between affect perception and social ability is a specific function of affect recognition deficits, rather than being reflective of more generalized cognitive decline. In addition, severity of psychiatric symptoms is known to be associated with psychosocial functioning in this population (Addington & Addington, 1999), so this must also be controlled when examining the role of affect perception.

In summary, social interactions appear to require the successful utilization of a complex set of perceptual processes including facial and vocal affect recognition, behavioral skills such as appropriate facial expressions, and general cognitive abilities. This study builds on the previous literature by studying the unique contributions of affective flattening and deficits in affect perception to the prediction of social functioning while controlling for level of intellectual decline and overall symptomatology. No study has investigated the relationship between both of these emotional skills and specific domains of social functioning such as interpersonal relationships, autonomous living and occupational role functioning.

Hypotheses

Hypothesis 1: It is hypothesized that expressive and receptive emotional skills will both be significant predictors of interpersonal functioning and occupational role functioning after accounting for psychiatric symptomatology and intellectual decline.

Hypothesis 2: It is hypothesized that neither expressive nor receptive emotional skills will be significant predictors of autonomous living ability after accounting for psychiatric symptomatology and intellectual decline.

Methods

Participants. Data were collected from 43 outpatients with a SCID-I/P confirmed diagnosis of schizophrenia. Inclusion criteria included: age between 18 and 55, ability to speak English fluently, ability to give informed consent, no history of mental retardation, no history of neurological disorder or head injury, and no current intoxication or withdrawal from drugs or alcohol. Of the individuals included in the study, 34 were male and nine were female. Mean age of onset of psychiatric symptoms was 19.05 (SD = 5.9). Mean chronicity of illness was 22.83 years (SD = 9.9). Twenty-two participants were African American and 19 were Caucasian.

Materials. The Structured Clinical Interview for DSM-IV Axis I Disorders - Patient Version (SCID-I/P; First et al., 1995) was used to confirm the diagnosis of schizophrenia while the Positive and Negative Syndrome Scale (PANSS; Kay, Fiszbein, & Oppler, 1987) was used to assess level of psychiatric symptomatology among the participants. Intellectual functioning was assessed with selected subtests from the Wechsler Adult Intelligence Scale-III (WAIS-III; Wechsler, 1997) and the American National Adult Reading Test (ANART; Grober & Sliwinski, 1991). Receptive emotional skills were assessed with the Face Emotion Identification Task (FEIT; Kerr & Neale, 1993) and the Emotional Perception Test (Green & Allen, 1997). Social functioning was assessed with the Role Functioning Scale (RFS; McPheeters, 1984) and the Quality of Life Scale (QLS; Heinrichs et al., 1984). Finally, expressive emotional skills were assessed by videotaping participants as they talked about a happy/pleasant and sad/unpleasant event. A modified version of the Facial Expression Coding System (FACES; Kring & Sloan, 1991) will be used to quantify facial expressivity of participants on this task.
Design and Analysis. Relevant subscales from the social functioning measures will be combined using appropriate data reduction techniques to represent functioning in each of the three domains. Based on the existing work describing development of the QLS and RFS, we have selected scales a priori to serve as estimates of ability in the three functional domains of interest (interpersonal relationships, autonomous living and occupational role functioning). A general approach to the data is described below.

Hypothesis 1. Expressive and receptive emotional skills will both be significant predictors of interpersonal functioning and occupational role functioning. For this hypothesis, interpersonal relationships will be represented by the Immediate and Extended Social Networks domains of the RFS and the Interpersonal Relations subscale of the of QLS, and occupational role functioning will be represented by the Work Productivity domain of the RFS and the Instrumental Roles scale of the QLS.

Hypothesis 2. Neither expressive nor receptive emotional skills will be significant predictors of autonomous living ability. For this hypothesis, autonomous living will represented by the Independent Living domain of the RFS and the Common Objects and Activities subscale of the QLS.

These hypotheses will be tested in a series of three multivariate regressions, one for each of the social functioning domains. In each analysis, the subscales from the QLS and RFS will be predicted from symptom severity and the expressive and receptive emotion variables. The final model may also include estimates of intellectual decline (assessed with WAIS-III and ANART), demographic variables (e.g., sex, race, education), presence or absence of substance abuse (assessed with SCID-I/P), and the interaction among these variables. Additional modeling will be conducted to determine the utility of combining the three domains of social functioning into an overall measure of social functioning.

REFERENCES


WORK HISTORY AND CAREER PATTERNS
OF RECIPIENTS OF PUBLIC SECTOR MENTAL HEALTH SERVICES

University of Cincinnati
Department of Psychology

Megan E. Harvey, MA                June Restrepo, MA
John J. Steffen, PhD                Joyce Borkin, PhD

Work is a valuable enterprise for the sustenance of society. Persons suffering from serious mental illnesses often struggle to gain and maintain employment and only about 10 percent of this population is currently working (Anthony & Jansen, 1984; Rutman, 1994). As persons with serious mental illness begin the process of recovery, gaining employment is often recognized as valuable to their social reintegration (Pilisuk, 2001). Employed consumers of mental health services have a higher quality of life (Priebe, Warner, Hubschmid, & Eckle, 1998), are less likely to be hospitalized than persons not working (Ellison, Danley, Bromberg, & Palmer-Erbs, 1999), and have more social ties and reciprocal relationships (Pilusuk, 2001).

An emphasis in previous research has been on developing and evaluating programs designed to promote the successful attainment and maintenance of employment (Alverson, Alverson, Drake, & Becker, 1998; Mueser, Salyers, & Mueser, 2001). Several robust social and clinical factors have been identified that relate to employment outcomes, including social support (Alverson et al., 1998; Hammen, Gitlin, & Althshuler, 2000), recovery from mental illness and recovery attitudes (Anthony, 2000; Cunningham, Wolbert, & Brockmeier, 2000), and premorbid status (Harrow, Westermeyer, Silverstein, Strauss, & Cohler, 1986; O’Neill & Bertollo, 1998).

Work history is another factor that has been related to employment outcomes (Jacobs, Wissusik, Collier, Stackman, & Burkeman, 1992; Mueser et al., 2001; Renegold, Sherman, & Fenzel, 1999). Although this variable is often included in employment research and is strongly associated with the ability of a person to obtain and maintain work (Anthony & Jansen, 1984; Mueser et al., 2001), the connection between work history and employment outcomes needs further exploration as the construct has yet to be operationalized. In a small study assessing the efficacy of a job-finding club, Jacobs et al. (1992) found that a good work history (i.e., the number of months of competitive employment in the past five years) was associated with positive employment outcomes. Renegold et al. (1999) have defined work history as the number of years of continuous employment and length of time since last employed and subsequently found that this variable accounted for the majority of the variance in employment outcomes. Research has also shown that past work experience, measured as hours per week at the longest job, months working on the longest job, highest occupational level, and prior occupational level, is one of the variables that predicts longitudinal work status (Mueser et al., 2001). Although work history appears to be a robust variable, its definition has varied from one study to another.

Further research on the definition of work history is needed. Even more striking is the dearth of literature focusing on the actual work histories or career patterns of consumers with serious mental illnesses. Investigating the actual work patterns or histories of consumers rather than using work history as one of many variables in a study of employment outcomes can be useful in gathering more information about employment.
Two studies have examined the career patterns, based on work history, of persons with severe mental illness (Baron & Salzer, 2000). In the initial study, work history information was collected from 40 participants in a vocational program. More than half had worked over four years, and only a relatively small group was fired due to complications with their mental illness (Baron & Salzer, 2000). In the second study, 38 people, most of whom had contact with the vocational rehabilitation system, participated in open-ended interviews. A brief synopsis of the results follows: participants had an extensive work history before and after the onset of their illness; relationships between co-workers and employees were rated positively; most were low-wage, entry-level, part-time, no-benefit jobs; there was concern about the effects of employment on participants’ benefits, and only a small number of participants left a job because of hospitalization for mental illness (Baron & Salzer, 2000). These studies are important because they are the first to detail the work histories of mental health consumers and, in so doing, are facilitating greater understanding of the experiences of employment for this population. Further research needs to be conducted to replicate or expand upon the results of these innovative studies using a more heterogeneous sample of consumers.

The aim of the current study was the explication of employment categories based upon mental health consumers’ work histories, their current work status (e.g. part-time, unemployed, or not seeking work), and their attitudes about work. It was expected that a more complete and generalizable categorization system of employment status would be obtained by gaining in-depth information about employment variables using both qualitative and quantitative methods of data collection. The results of this study could help in setting more reasonable employment goals, in developing a method of identifying and indexing work patterns, and in tailoring appropriate interventions for individuals in each category. Because this study was exploratory, there were no a priori hypotheses about the categories that emerged in the sample. It was expected that, if categories did exist, differences would occur among categories on the psychosocial variables (i.e., social support, recovery attitudes and premorbid status). Specifically, categories with more favorable employment attributes would also have more favorable psychosocial attributes and those categories with less favorable employment attributes would have less favorable psychosocial attributes.

**Participants**

Data from 97 consumers of mental health services in Hamilton County were used in this study. All participants had been qualified as eligible to receive publicly-funded mental health services. Participants’ ages ranged from 20 to 69 (M = 42.41, SD = 10.59) and 58.6 percent of the sample either completed high school or some college.

**Procedure**

Participants were recruited from various mental health agencies operating in Hamilton County. The primary researcher and trained research assistants recruited consumers through the use of signs posted at mental health agencies and personal solicitation. Interviews were conducted at a convenient location such as the consumer’s community mental health agency. The consent form was read to each consumer explaining confidentiality policies and the general goals of the study and after all questions were addressed, each consumer consented to participate. All instruments were read aloud and the researchers recorded the participants’ responses. Consumers were paid $10 for their participation.
Instruments

The primary instrument was a work history form. This form, constructed for the present study, included subscales assessing employment status, satisfaction with work and school (Lehman, 1988), general ideas about work, the desirability and necessity of work, the least and most appealing aspects of work, barriers to seeking work, and supplementary income status and its effect on the perceived need for employment. A series of open-ended questions was designed to elicit details about the most recent job held prior to the current job (if applicable). These questions asked about the nature of the work, duties held, the time period employed, pay rate, age, relationships with coworkers and superiors, satisfaction with the amount of pay received, and the best and worst aspects of the job. All open-ended responses were coded using standard content analysis methods.

The Multidimensional Scale of Perceived Social Support (MSPSS) was used to assess perceived social support (Zimet, Dahlem, Zimet, & Farley, 1988). Three domains were considered: family, friends and significant others. The internal consistency reliability, as measured by Cronbach’s coefficient alpha, for the significant other, family, and friends subscales and the total scale were .91, .87, .85, and .88, respectively, and the test-retest reliability coefficients were .72, .85, .75, and .85, respectively (Zimet et al., 1988).

The Zigler-Phillips Premorbid Social Competence Scale was used to collect information about premorbid status (Zigler & Phillips, 1961). This is a multi-dimensional scale indexing a person’s developmental level at the time before the development of a serious mental illness. The variables in this index included age, education, occupation, employment history and marital status during the premorbid period. Internal reliability data are unavailable for this measure.

The Recovery Attitudes Questionnaire (RAQ) was used to assess participants’ attitudes about the concept of recovery from mental illness (Borkin et al., 2000). The measure includes a definition of recovery and provides statements about recovery. There are two factors within the RAQ; Factor 1 is “Recovery is possible and needs faith” and Factor 2 is “Recovery is difficult and differs among people”. Two additional items were included for this study specifically addressing the connection between recovery and employment. Internal reliability for the RAQ as measured by Cronbach’s alpha ranges from .644 to .704 and the test-retest reliability is .674.

A brief demographic questionnaire surveyed participants’ age, gender, ethnicity, living situation, educational status, marital status and primary diagnosis.

Results

A cluster analysis was conducted using selected items from the work history interview including Lehman’s Employment, Work, and Satisfaction with School Subscales, the mean of general questions about employment, the most and least appealing aspects of work, and several aspects about the most recent job held prior to their current job within the last ten years (i.e., the duties at the job, relationship with coworkers, satisfaction with pay). The groups identified through the cluster analysis will be described using the clustering variables and the psychosocial variables from the interview not used in the clustering solutions.

A five-cluster solution was derived using a hierarchical agglomerative method. Specifically, the squared Euclidean distance metric was used to estimate similarity between cases in conjunction with Ward’s method of linkage, which is designed to optimize the minimum variance within clusters. This analysis indicated that a five-cluster solution was most appropriate for this sample. A k-means procedure was then performed using quick cluster in SPSS, which allows the researcher to specify the number of
clusters to be formed. This method does not allow much overlapping of the clusters (Aldenderfer and Blashfield, 1984).

The five clusters are as follows: Cluster 1 ($N = 12$) is characterized as the “Employed, in School, Positive Attitudes about Work” or ESPA Cluster. Cluster 2 ($N = 35$) is identified as the “Employed, Positive Attitudes about Work” or EPA cluster. Cluster 3 ($N = 5$) is identified as the “Employed, Mixed Attitudes about Work” or UMA cluster. Finally, Cluster 5 ($N = 15$) is characterized as the “Unemployed, Negative Attitudes about Work” or UNA Cluster. See Table 1 for means and standard deviations for a selection of the clustering variables.

<table>
<thead>
<tr>
<th>Cluster</th>
<th>1 ESPA</th>
<th>2 EPA</th>
<th>3 USPA</th>
<th>4 UMA</th>
<th>5 UNA</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>$N$</td>
<td>12</td>
<td>35</td>
<td>5</td>
<td>32</td>
<td>15</td>
<td>99</td>
</tr>
<tr>
<td>Employed$^a$</td>
<td>100.0</td>
<td>80.0</td>
<td>0.00</td>
<td>6.00</td>
<td>2.00</td>
<td>46.0</td>
</tr>
<tr>
<td>Satisfied job$^b$</td>
<td>4.95 (0.98)</td>
<td>4.48 (2.19)</td>
<td>0.00 (0.00)</td>
<td>0.23 (0.89)</td>
<td>0.99 (2.04)</td>
<td>2.41 (2.67)</td>
</tr>
<tr>
<td>Satisfied school$^b$</td>
<td>5.17 (1.27)</td>
<td>0.00 (0.00)</td>
<td>5.67 (0.47)</td>
<td>0.00 (0.00)</td>
<td>0.31 (1.20)</td>
<td>0.96 (2.09)</td>
</tr>
<tr>
<td>Mean general work questions$^c$</td>
<td>4.30 (0.61)</td>
<td>4.20 (0.73)</td>
<td>4.04 (0.59)</td>
<td>3.86 (0.86)</td>
<td>2.88 (0.89)</td>
<td>3.90 (0.90)</td>
</tr>
</tbody>
</table>

Note. ESPA = Employed, in School, Positive attitudes about Work; EPA = Employed, Positive Attitudes about Work; USPA = Unemployed, in School, Positive Attitudes about Work; UMA = Unemployed, Mixed Attitudes about Work; UNA = Unemployed, Negative Attitudes about Work

$^a$Numbers reported are the percentage of cluster members who endorsed being employed.

$^b$Numbers reported are the means and standard deviations for these instruments. The mean can range between 7, which endorses satisfaction, and 1, which endorses dissatisfaction.

$^c$Numbers reported are the means and standard deviations for the general questions about work. The mean can range between 5, which endorses positive attitudes about work, and 1, which endorses negative attitudes about work.

There are some notable similarities and differences in the work history responses among the clusters with employed participants. For example, members of the ESPA Cluster endorsed people as being the worst part of their most recent job prior to their current job, despite reporting that they got along “well” or “fine” with coworkers. Members of the EPA Cluster also reported getting along “well” or “fine” with their coworkers, but in contrast to members of the ESPA Cluster, they endorsed working with people as being the best part of their most recent job prior to their current job. Members of the ESPA Cluster had a shorter tenure at the most recent job prior to their current job than did members of the EPA Cluster who worked at this job for two years.

The unemployed clusters also had differences and similarities. For example, members of the USPA Cluster had not worked since 2000, while members of the UMA Cluster had held a job that ended more recently. Members of each cluster most commonly reported having a job as being the best part about their most recent employment. The last unemployed cluster, the UNA Cluster, is unique because its members had no work history over the last ten years and the members of this cluster had negative
attitudes toward work. For each cluster, the most common work history responses pertaining to the most recent job held prior to the current job are listed in Table 2.

Table 2. Work History Characteristics by Cluster

<table>
<thead>
<tr>
<th>Cluster</th>
<th>1 ESPA</th>
<th>2 EPA</th>
<th>3 USPA</th>
<th>4 UMA</th>
<th>5 UNA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most recent job duties</td>
<td>Receptionist/clerical; food service</td>
<td>Food service</td>
<td>Factory/construction; food service</td>
<td>Food service; maintenance/yard work</td>
<td>No other job experience in last 10 years</td>
</tr>
<tr>
<td>Work minimum</td>
<td>6-11 month</td>
<td>2 years</td>
<td>2-5 months</td>
<td>2-5 months</td>
<td></td>
</tr>
<tr>
<td>Age when job ended</td>
<td>30 - 39</td>
<td>30 - 39</td>
<td>40 - 49</td>
<td>30 - 39</td>
<td></td>
</tr>
<tr>
<td>Coworkers</td>
<td>good; OK</td>
<td>good; OK</td>
<td>good</td>
<td>OK; good</td>
<td></td>
</tr>
<tr>
<td>Satisfied with pay?</td>
<td>66.6</td>
<td>57.1</td>
<td>40.0</td>
<td>68.8</td>
<td></td>
</tr>
<tr>
<td>Best part of job</td>
<td>money; having job/liking job</td>
<td>people</td>
<td>having job/liking work</td>
<td>Having job/liking job; people physical probs</td>
<td></td>
</tr>
<tr>
<td>Worst part of job</td>
<td>people</td>
<td>job duties/atmosphere</td>
<td>people; physical probs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Why they left</td>
<td>mental illness; temp work/still there</td>
<td>got new job/looking; mental illness</td>
<td>Multiple answers</td>
<td>other</td>
<td></td>
</tr>
<tr>
<td>Did Mental Illness interfere?</td>
<td>66.6</td>
<td>45.7</td>
<td>60.0</td>
<td>56.3</td>
<td></td>
</tr>
<tr>
<td>Describe how it interfered</td>
<td>Side effect of meds</td>
<td>Stress/Overwhelmed</td>
<td>Multiple answers</td>
<td>Other; mood disorder</td>
<td></td>
</tr>
</tbody>
</table>

Note. The most common work history response(s) are listed for each cluster.

ESPA = Employed, in School, Positive attitudes about Work; EPA = Employed, Positive Attitudes about Work; USPA = Unemployed, in School, Positive Attitudes about Work; UMA = Unemployed, Mixed Attitudes about Work; UNA = Unemployed, Negative Attitudes about Work.

*aScores listed are the percentage of “Yes” endorsements on these questions.

A multivariate analysis of variance (MANOVA) was conducted using the psychosocial variables as validation variables to determine if significant differences existed among the clusters on each of the psychosocial factors. Although each cluster produced different patterns on validating variables (i.e., social support, premorbid status and RAQ subscales), the overall multivariate effect for cluster membership was not significant \( F(28, 318.7) = 1.01, p = .46 \).
Discussion

The aim of this exploratory research was to describe the work histories and career patterns of people with serious mental illnesses to create a typology of employment status based on these concepts. The existence of five clusters in this sample and the complexities of the work histories of the participants of this study demonstrate that more detailed information about work history must be considered in future research. A number of findings in this research are noteworthy. It appears that there may be multiple categories within the group of unemployed consumers. Specifically, it seems that some consumers have no real desire to work and do not find any value in the pursuit of employment. Also, the results imply that meaningful activity is beneficial to consumers. In this sample, members of the USPA Cluster were not working but they were participating in school. Their attitudes about employment were more positive than the members of other unemployed clusters as were their attitudes about recovery from mental illness. It also appears that there are important differences within the employed clusters. For example, in the ESPA Cluster, members tended to have more difficulty with interpersonal relationships than did members in the EPA Cluster. The differences on employment variables between clusters imply that the concept of employment is a multifaceted construct and that work history is an integral part of the construct.

The results of the present study add to this body of research focusing on work history and career patterns by using a more heterogeneous sample than that used in previous research, which included only consumers participating in employment programs (Baron & Salzer, 2000). Previous research detailed work history and career patterns qualitatively. The qualitative data collected in this study were coded to allow for quantitative analysis. As a result, concise, measurable categories of employment were created based on the information about work history, employment patterns and current employment status. This is significant because definitions of work history have varied widely in employment research and work history data have not been the focus of research on employment outcomes. It is hoped that the work history measure developed in the present study will be refined and emerge as a standardized tool for measuring and coding work history data to allow for more direct research on the relation between work history and employment outcomes.

Although this research contributed to the body of work on employment patterns, it is important to consider that this was an exploratory study, and has certain limitations. The convenience sampling process used here attenuates generalizability of the current findings. The use of only self-report data adds a degree of uncertainty about the validity of the results, as no alternative sources of data were included. The method of analysis also has limitations. Cluster analysis is a structure-seeking procedure but it is also, in effect, a structure-imposing procedure. Groups or categories will be created even if they are not theoretically or practically suggested. Cluster analysis also has many different methods (e.g., Hierarchical Agglomerative or Iterative Partitioning methods) and these different types of methods may produce different results from the same set of data. To minimize and combat the effects of each method’s inherent limitations, two methods of analysis were used to validate the cluster solution. In validating the cluster solution, limitations became evident. Because the validation variables, chosen because they imparted a theoretical meaningfulness to the clusters, were not significant, there is a possibility that the clusters may have poor generalizability and may not be stable over time. This poses problems for external validity.

Despite these limitations, several implications can be drawn from this study. The current research has implications for employment research as well as mental health practice. The number of clusters in this sample and the complexities of the work histories of the participants suggest that more detailed information about consumers’ work histories should be considered in future research. The use of in-depth work histories may uncover new phenomena and it is necessary to ask how such data may affect other areas of employment research. In addition, the present effort to categorize consumers into clusters based on employment status and work history demonstrates that the way in which employment is currently...
conceptualized is insufficient. Too often, consumers are placed in one of two categories: employed or unemployed. The five clusters emerging from the present data exemplify the complexities of the construct of employment.

There are some recommendations for service delivery that can be drawn from the present study. For example, mental health providers can use employment clusters to help conceptualize the consumers with whom they are working and to help assess consumers’ employment goals. For example, identifying a consumer as being a member of the ESPA Cluster will suggest that this consumer may have some difficulty holding down a job for a substantial period of time and may have trouble working with others. With this knowledge, the provider may help this consumer choose a job in which their weaknesses will not interfere as much as they might in another setting and their strengths will be used. The provider can use information about a consumer’s cluster membership and refer that person to an appropriate service. For example, in the case of the ESPA Cluster, the provider may want to refer a client to group treatment that will enhance social skills. If cluster information is not available, providers can gather data about work history and make appropriate interventions based upon patterns in their consumer’s work history. The knowledge gained by assessing consumers and determining in which cluster they belong or what patterns exist in their work history may clarify what interventions will be most effective.

To expand upon this research, it is recommended that the work history form used in this study be consolidated in such a way that both researchers and mental health professionals can easily use it to collect work history information. It is also necessary to collect information about the complete work histories of a larger sample of consumers of mental health services to determine the work history patterns that exist over a larger period of time than that considered in this study. Continued employment research with work history as the focus is a necessary and important endeavor in future research. Specifically, investigating various categories that exist based on work history, work status and other employment variables, is worthwhile as so many practical implications are inherent in the results.

REFERENCES


**Other Publications of the Research to Date**


**Paper Presentations of the Research to Date**

 OUTCOMES OF A FORENSIC DIVERSION PROGRAM  
RECIDIVISM, COSTS AND MENTAL HEALTH RECOVERY  

University of Toledo  
Department of Psychology  

Wesley A. Bullock, PhD  
Aaron Breedlove, MA  
Lucas County Mental Health Board  

Melissa Klein, MA  
Christine Larson, MA  

Jacqueline Martin  

Serious Mental Illness in Jails and Prisons  

The President’s New Freedom Commission on Mental Health (2003) reported that the rates of serious mental illness (SMI) for incarcerated persons in the United States is about three to four times that of the general population, with about seven percent of all incarcerated people having a current serious mental illness (see also U.S. Dept. of Justice, 2000; Torrey et al., 1992). As part of a comprehensive strategy to provide mental health alternatives to criminal incarceration, the Lucas County Mental Health Board, working with the Lucas County Sheriff’s Department, Toledo Municipal Court, and local mental health agencies initiated a post-booking mental health diversion program for individuals incarcerated at the Lucas County Jail. The Lucas County Jail, which has a capacity of 418 persons and an annual census of 24,000 bookings per year, estimates that 10 to 15 percent of the inmates meet criteria for one or more psychiatric diagnoses (Ventura, Cassel, Jacoby, & Huán, 1998).  

Purpose of the Present Study  

The present study was developed to examine the effectiveness, including the cost-benefit, of this jail/court-based diversion project. The purpose of the project was to identify persons with serious mental illness who were arrested for misdemeanor or nonviolent felony crimes, and then link these persons to mental health services in the community. A post-booking design was employed, such that arrested persons who presented behaviors suggestive of serious mental illness were identified in the jail or at the court and then were referred to a Mental Health Team for screening and diagnostic assessment. (See an earlier report by Bullock, Wuttke, Klein, & Bechtoldt, 2002 for a description of the Mental Health Team.) Mental health appointments were scheduled upon the individual’s anticipated release from jail. Through this method, the program sought to divert offenders with mental illness from the criminal justice system to mental health treatment, thereby providing a continuum of appropriate treatment services from the jail to the community and promoting the process of personal recovery (Bullock, Ensing, Alloy, & Weddle, 2001; Young & Ensing, 1999).  

Incorporated into the design of the Diversion Project was the provision of monitoring participants in order to track subsequent criminal justice involvement and to determine the types and amounts of mental health treatment services received. The study tested the hypotheses that a post-booking diversion program involving linkage for offenders with mental illness to community mental health services would: (1) increase utilization of community mental health services by diversion program participants; (2) reduce criminal justice involvement as evidenced by (a) reduced rates of recidivism, or number of arrests and (b) reduced number of days spent in jail by diversion program participants, and (3) result in a transfer
of costs from the criminal justice system to the community mental health system as a result of the improving mental health and declining criminal activity of diversion program participants.

Analyses were conducted to address these hypotheses by considering the overall effects of the diversion program across all participants, and also by comparison of two naturally occurring, self-selected groups of program participants. These groups included a “served” group of participants, who received a community mental health appointment while in jail and subsequently engaged in services upon release, and a “not served” group of participants, who received a community mental health appointment but who did not receive services in the subsequent year following release from jail. It was expected that those participants who engaged in subsequent mental health services would demonstrate greater reductions in criminal justice involvement than those participants not served, and that a transfer of costs would be more evidenced by the served participants.

Measuring Recovery in Forensic Populations: A Portrait of Two Forensic Samples

The concept of recovery from serious mental illness has received a great deal of attention in the psychiatric rehabilitation literature (Anthony, 1993; Deegan, 1988, 1997), and promotion of “recovery” now serves as the fundamental goal of the President’s New Freedom Commission (2003) report on transforming mental health care in America. However, to date, the development and implementation of jail diversion programs has not been within the framework of mental health recovery, nor has mental health recovery been directly evaluated as an outcome. The application of a mental health recovery model in the forensic arena is essentially absent (Lamb, Weinberger, & Gross, 1999), although legislative efforts have begun to introduce mental health issues directly into the criminal justice system (Goldkamp & Irons-Guynn, 2000; Hartwell & Orr, 1999; Steadman et al., 1999).

To address the issue of recovery directly within the present study, the University research team completed individual interviews with a subset of program referrals. Ninety-three individuals were interviewed in the jail setting and administered a battery of psychometric recovery-oriented questionnaires. In addition to data collected from Lucas County Jail inmates, comparative data were also obtained from a sample of 30 forensic clients of the Northcoast Behavioral Healthcare (NBH) Community Support Network (CSN) program. This CSN program was run through a regional state hospital and provided ACT-model intensive case management for individuals adjudicated not guilty by reason of insanity (NGRI). Psychometric recovery measures administered to the Jail and CSN program participants included the Mental Health Recovery Measure (Young & Bullock, 2003), Community Living Skills Scale (Smith & Ford, 1990), and Ohio Department of Mental Health (ODMH) Consumer Outcomes System Adult Consumer Form A (ODMH, 2000). The ODMH Consumer Form A includes within it the Empowerment Scale (Rogers, Chamberlain, Ellison, & Crean, 1997). Both the Empowerment Scale and the Mental Health Recovery Measure (MHRM) include five subscales measuring more specific areas of recovery. (Bullock & Young, 2003; Ralph, Kidder, & Phillips, 2000.)

Methodology: Challenges and Changes in Program Management and Focus

The Mental Health Team (MHT) and its activities were originally organized and managed by Northcoast Behavioral Healthcare. Approximately one year into the project, the MHT program was reorganized and managed by another agency, Unison Behavioral Healthcare. Approximately two years into the project, the MHT program was reorganized again and is currently managed by a different agency, the Zepf Center. Each of these three changes in program management led to significant project disruption during the transition period and 100 percent staff turnover, with the exception of one consumer advocate who has stayed with the MHT program since its inception. The University of Toledo Department of Psychology has supervised the data management and research evaluation throughout the project.
Because of the changes in program management and focus, outcomes data for the research project were separated into two phases, as a function of project year. Data for the project in Phase One comprise data from clients seen in the first seven months of operation of the program (September, 2000 – March, 2001). In Phase One of the project, the vast majority of referrals and subsequent screenings were completed within the context of the county jail. In Phase Two of the project (September 2001 – October, 2002), the focus of referral and screening services was shifted to the municipal court setting. Two-year follow-up data are now complete for individuals served in Phase One of the project, while one-year follow-up data are available for individuals served in Phase Two of the project. The current report focuses on mental health service outcomes and two-year recidivism data from forensic clients served in Phase One of the project.

Participants

Participants in the project were individuals incarcerated within the Lucas County Jail who were known to be mental health consumers, or evidenced behaviors indicative of mental illness. Referral to the Mental Health Team could come at any stage in the criminal justice process, but in Phase One of the project, referrals were typically received from intake workers or unit counselors within the jail ($N = 220$). In Phase Two, referrals were typically received judges or attorneys at the Municipal Court ($N = 344$). The individuals who participated in the recovery interviews were a subset of the Phase One referrals ($N = 93$) and a sample of forensic (NGRI) clients participating in an intensive CSN treatment program ($N = 30$).

Results from Mental Health Recovery Interviews: A Psychometric Portrait of the Recovery in Jailed Consumers compared to Forensic Consumers Receiving Intensive CSN Services

Table 1 provides the mean scores for the subset of Phase One referrals ($N = 93$) on the recovery measures in comparison to recovery data collected from the sample of forensic clients receiving intensive treatment through the CSN program ($N = 30$). Preliminary comparisons of mental health and criminal justice data across the two forensic samples revealed that the jail sample had an average of 4.1 previous psychiatric hospitalizations, but that this was still significantly less than the CSN sample, which had an average of 12.0 previous psychiatric hospitalizations, $t(95) = 3.47, p < .01$. Jail sample referrals had significantly more arrests in the previous year ($M = 3.2$) compared to the CSN group ($M = .3$) and in the previous three years ($M = 7.5$) than the CSN group ($M = 2.3$), $t = 5.93, p < .01$. Referrals from the jail were also more likely to be homeless (13% versus 3%) or living with a friend (26% versus 3%). The majority of the CSN sample lived in a group home (40%) or their own apartment or home (37%). Finally, persons from the CSN sample were significantly more likely to have received a diagnosis of schizophrenia (93%) compared to the jail subsample (16%).

Independent $t$ tests comparing the jail sample to the CSN forensic sample on the recovery measures found that the jail participants’ average scores on the Mental Health Recovery Measure Total Score, the Community Living Skills Scale, and the Empowerment Scale Total Score, were all significantly lower. The jail participants were also significantly lower in self-reported recovery compared to the CSN treatment sample on four of the five subscales of the MHRM (Self-Redefinition, Basic Functioning, Overall Well-Being, and New Potentials) and one of the five subscales of the Empowerment Scale (Self-Esteem/Self-Efficacy). In addition, both the Quality of Life Overall Scale from the Ohio Consumer Outcomes Form A, and the Quality of Life Financial subscale, were significantly lower in the jail sample. Finally, the average rating of the Ohio Consumer Form A item, “I am treated with dignity and respect at this agency” was significantly lower for the jail sample. Collectively, these results clearly indicate that the mental health consumers identified in the jail setting reported being significantly less “recovered” across multiple measures of the recovery process compared to forensic consumers engaged in an intensive treatment program (see Table 1).
Table 1. Means (SD) for Scores on the Mental Health Recovery Measure (MHRM), Community Living Skills Scale, and the Ohio Adult Consumer Outcomes Form A Scales Comparing Lucas County Jail Inmates to Community Support Network (CSN) Forensic Clients

<table>
<thead>
<tr>
<th>Measure</th>
<th>Lucas County Jail Inmates (N = 93)</th>
<th>CSN Forensic Clients (N = 30)</th>
<th>t (120)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHRM: Total Score</td>
<td>64.9 (14.3)</td>
<td>76.9 (9.4)</td>
<td>4.30 ***</td>
</tr>
<tr>
<td>Overcoming Stuckness</td>
<td>18.6 (2.6)</td>
<td>19.2 (1.8)</td>
<td>1.16 NS</td>
</tr>
<tr>
<td>Self-Redefinition</td>
<td>24.9 (4.8)</td>
<td>27.0 (4.1)</td>
<td>2.17 *</td>
</tr>
<tr>
<td>Basic Functioning</td>
<td>11.3 (3.9)</td>
<td>16.4 (3.7)</td>
<td>6.37 ***</td>
</tr>
<tr>
<td>Overall Well-Being</td>
<td>12.1 (4.9)</td>
<td>17.0 (3.2)</td>
<td>5.05 ***</td>
</tr>
<tr>
<td>New Potentials</td>
<td>19.8 (5.4)</td>
<td>24.0 (3.4)</td>
<td>4.03 ***</td>
</tr>
<tr>
<td>Community Living Skills</td>
<td>81.4 (17.2)</td>
<td>98.2 (16.9)</td>
<td>4.68 ***</td>
</tr>
<tr>
<td>Empowerment Scale: Overall</td>
<td>2.6 (.28)</td>
<td>2.8 (.26)</td>
<td>2.80 **</td>
</tr>
<tr>
<td>Self-Esteem/Self-Efficacy</td>
<td>2.9 (.45)</td>
<td>3.2 (.37)</td>
<td>4.03 ***</td>
</tr>
<tr>
<td>Power/Powerlessness</td>
<td>2.4 (.46)</td>
<td>2.4 (.41)</td>
<td>0.16 NS</td>
</tr>
<tr>
<td>Activism/Autonomy</td>
<td>3.1 (.37)</td>
<td>3.19 (.36)</td>
<td>0.69 NS</td>
</tr>
<tr>
<td>Optimism/Control</td>
<td>2.8 (.39)</td>
<td>2.9 (.43)</td>
<td>1.91 NS</td>
</tr>
<tr>
<td>Righteous Anger</td>
<td>2.3 (.45)</td>
<td>2.2 (.55)</td>
<td>0.85 NS</td>
</tr>
<tr>
<td>Symptom Distress</td>
<td>43.0 (13.5)</td>
<td>24.9 (9.4)</td>
<td>6.81 ***</td>
</tr>
<tr>
<td>Quality of Life: Overall</td>
<td>2.7 (.72)</td>
<td>3.3 (.73)</td>
<td>3.60 ***</td>
</tr>
<tr>
<td>Quality of Life: Financial</td>
<td>2.2 (1.0)</td>
<td>2.6 (1.1)</td>
<td>2.13 *</td>
</tr>
<tr>
<td>Physical Condition Interfere</td>
<td>2.7 (1.4)</td>
<td>2.2 (1.0)</td>
<td>1.84 NS</td>
</tr>
<tr>
<td>Medication Concerns</td>
<td>3.9 (1.8)</td>
<td>3.3 (1.3)</td>
<td>1.72 NS</td>
</tr>
<tr>
<td>Treated with Dignity</td>
<td>3.6 (1.3)</td>
<td>4.1 (1.0)</td>
<td>2.04 *</td>
</tr>
<tr>
<td>Feel Threatened</td>
<td>2.4 (1.4)</td>
<td>2.2 (1.2)</td>
<td>0.62 NS</td>
</tr>
</tbody>
</table>

* p < .05,  ** p < .01,  *** p < .001

Phase One Outcomes Results

In the first seven months of the program (Phase One), the Mental Health Team received a total of 1,448 participant referrals, which represented 10.3 percent of the total number of persons who were booked into the Lucas County Jail during that time. Of the referrals assessed during Phase One, 251 persons were subsequently referred for community-based mental health treatment. However, 31 participants (12%) were unable to make their appointment as scheduled due to unanticipated continued incarceration or subsequent sentencing to a regional jail or prison. These individuals were excluded from the final sample. The analyses for Phase One were conducted utilizing data gathered from the remaining sample of 220 participants.

This final sample of 220 referrals was then divided into two groups based upon whether participants successfully followed through with mental health services. The “served” group included 83 participants (38%) who successfully engaged in mental health services after linkage through the diversion program. The “not served” group included 137 participants (62%) who had received a medical appointment at a community mental health center but who failed to engage in mental health services in the one-year period following release from jail. The “not served” group was a non-random, self-selected, comparison group of participants used to measure the criminal behavior and costs to the County that ensue when individuals referred for treatment of mental health problems are not subsequently served by community mental health services.
Descriptive statistics, including means, standard deviations and ranges were computed for the demographic variables for Phase One participants (see Table 2). Results indicated that the two groups did not significantly differ in age, gender, or ethnicity. Psychiatric and substance disorder diagnosis information was available for 185 participants. The most common psychiatric diagnosis was Depression or other Affective Disorder (41.1%), followed by Schizophrenia/Psychotic Disorder NOS (22.2%), Bipolar Disorder (18.9%), and Adjustment Disorder (13.5%). In addition, 115 participants (62.2%) had a substance disorder diagnosis. Results of chi-square analyses indicated that the served and not served groups did not differ in frequency of a substance disorder diagnosis. However, the two groups differed significantly with respect to the most common psychiatric diagnoses, with Schizophrenia/Psychotic Disorder and Bipolar Disorder diagnoses occurring more frequently in the served group (25.3% and 21.7%, respectively) than in the not served group (19.6% and 16.7%), and the diagnosis of Adjustment Disorder occurring more frequently in the not served group (19.6%) than in the served group (6.0%), $\chi^2(3) = 7.6, p < .05$.

Frequency data, including number and percent of participants, were computed for criminal charge and mental health service utilization data. With regard to criminal activity, charge data were classified according to the charge type (as a misdemeanor, nonviolent felony or violent felony) and according to a category of offense. Chi-square analyses were conducted to examine differences between the served and not served groups in terms of the criminal charge data. Results indicated that there were no differences between the groups with regard to either category of offense or charge type, with the majority of offenses across both groups classified as misdemeanors (54.2%) and the remainder as nonviolent felony (19.3%) and violent felony (19.8%) offenses.

Regarding mental health service utilization data, results indicated a significant difference between groups, with a greater proportion of served participants having a prior one-year history of mental health service utilization (53.0%) as compared to the not served group (5.8%), $\chi^2(1) = 63.72, p < .001$. Results also indicated that the two groups differed in total amount of mental health services received in the prior year, with the served group, on average, having significantly more service hours ($M = 17.65$) compared to the not served group ($M = .24$), $t(1, 82) = -4.65, p < .001$.

**One and Two Year Follow-up Mental Health Utilization and Recidivism Results**

The initial hypothesis of this study was that, for criminal offenders with mental illness, participation in a forensic diversion program would increase rates of community mental health service utilization. Paired samples $t$-tests were conducted in order to examine differences in pre- and post-participation total mental health units of service, in hours, for the served group of participants at one and two years post-participation. The change in mental health hours for served participants one year pre- to one year post- was significant, with the served participants demonstrating a significant increase in total mental health units of service from pre-participation ($M = 17.65, SD = 34.1$) to one year post-participation ($M = 30.49, SD = 41.9$), $t(82) = 2.65, p < .01$. The specific types of service that demonstrated a significant increase in the one-year post utilization included assessment, $t(82) = 2.45, p < .05$ and individual therapy $t(82) = 1.98, p < .05$. Although there was still an increase in mental health units in year two post, the change in mean hours from pre- ($M = 17.65$) to two years post-participation ($M = 23.08, SD = 66.6$), was not statistically significant.
Table 2. Demographic Information and Psychiatric Data for Served \((N = 83)\) and Not Served \((N = 137)\) Lucas County Forensic Diversion Project Participants in Phase One

<table>
<thead>
<tr>
<th>Variable</th>
<th>Served</th>
<th></th>
<th>Not Served</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean ((SD))</td>
<td>Range</td>
<td>Mean ((SD))</td>
<td>Range</td>
</tr>
<tr>
<td>Age</td>
<td>34.0 (9.0)</td>
<td>19 – 59</td>
<td>34.0 (10.3)</td>
<td>18 - 72</td>
</tr>
<tr>
<td>Category</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>53 (63.9)</td>
<td></td>
<td>88 (64.2)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>30 (36.1)</td>
<td></td>
<td>49 (35.8)</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>42 (50.6)</td>
<td></td>
<td>60 (43.8)</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>40 (48.2)</td>
<td></td>
<td>72 (52.6)</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>1 (1.2)</td>
<td></td>
<td>4 (2.9)</td>
<td></td>
</tr>
<tr>
<td>Biracial</td>
<td>0 (0)</td>
<td></td>
<td>1 (0.7)</td>
<td></td>
</tr>
<tr>
<td>Psychiatric Diagnosis(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenia/Psychotic NOS</td>
<td>21 (25.3)</td>
<td></td>
<td>20 (19.6)</td>
<td></td>
</tr>
<tr>
<td>Bipolar Disorder</td>
<td>18 (21.7)</td>
<td></td>
<td>17 (16.7)</td>
<td></td>
</tr>
<tr>
<td>Depression/Affective NOS</td>
<td>35 (42.2)</td>
<td></td>
<td>41 (40.2)</td>
<td></td>
</tr>
<tr>
<td>Anxiety-Related Disorder</td>
<td>2 (2.4)</td>
<td></td>
<td>- -</td>
<td></td>
</tr>
<tr>
<td>Adjustment Disorder</td>
<td>5 (6.0)</td>
<td></td>
<td>20 (19.6)</td>
<td></td>
</tr>
<tr>
<td>Substance Disorder as primary</td>
<td>1 (1.2)</td>
<td></td>
<td>3 (2.9)</td>
<td></td>
</tr>
<tr>
<td>Other Diagnosis</td>
<td>1 (1.2)</td>
<td></td>
<td>1 (1.0)</td>
<td></td>
</tr>
<tr>
<td>Substance Disorder Diagnosis(b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>50 (60.2)</td>
<td></td>
<td>65 (63.7)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>33 (39.8)</td>
<td></td>
<td>37 (36.3)</td>
<td></td>
</tr>
</tbody>
</table>

\(a\)For Psychiatric and Substance Disorder Diagnoses: “Not Served” \(N = 102\), participants for whom diagnostic data were available.

It was hypothesized that participation in a forensic diversion program would be associated with reduced criminal justice involvement, such that those participants who engaged in mental health treatment would have reduced rates of criminal recidivism and reduced time spent in jail. Preliminary analyses found no difference between the two groups in the number days spent in jail at the time of initial mental health team referral, with the served group having an average of 19.2 jail days \((SD = 30.0)\) and the not served group having an average of 18.8 jail days \((SD = 37)\) at initial arrest. Contrary to expectations, there was no difference between the two groups in the rate of re-arrest, with 72 percent of the served and 68 percent of the not served group re-arrested within the first year following release. There was also no difference between the two groups in the number of days maintained in the community prior to re-arrest, with the served group averaging 148 days \((SD = 159)\) maintained prior to re-arrest, compared to 154 days \((SD = 126)\) maintained for the not served group.
Table 3. Means (SD) for Number of Arrests and Number of Jail Days for Served (N = 83) and Not Served (N = 137) Participants One Year Pre-Participation, One Year Post-Participation, and Two Years Post-Participation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Served</th>
<th>Not Served</th>
<th>t (218)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD) Range</td>
<td>Mean (SD) Range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-participation Arrests</td>
<td>3.42a (3.0) 0 – 13</td>
<td>2.91a (2.1) 1 – 12</td>
<td>1.46</td>
<td>.18</td>
</tr>
<tr>
<td>One Year Follow-up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-participation Arrests</td>
<td>2.16b (2.9) 0 – 15</td>
<td>1.72b (2.5) 0 – 15</td>
<td>1.18</td>
<td>.25</td>
</tr>
<tr>
<td>Two Year Follow-up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-participation Arrests</td>
<td>1.76b (2.8) 0 – 25</td>
<td>1.88b (3.7) 0 – 21</td>
<td>0.33</td>
<td>.74</td>
</tr>
<tr>
<td>F(2, 94) = 18.68, p &lt; .001</td>
<td></td>
<td>F(2, 135) = 15.35, p &lt; .001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-participation Jail Days</td>
<td>32.70a(38.6) 0 – 197</td>
<td>31.44a(44.9) 1 – 365</td>
<td>0.22</td>
<td>.83</td>
</tr>
<tr>
<td>One Year Follow-up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-participation Jail Days</td>
<td>31.80a(58.3) 0 – 365</td>
<td>20.96b(42.2) 0 – 318</td>
<td>1.59</td>
<td>.14</td>
</tr>
<tr>
<td>Two Year Follow-up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-participation Jail Days</td>
<td>23.10b(37.3) 0 – 160</td>
<td>15.30b(38.7) 0 – 255</td>
<td>1.27</td>
<td>.21</td>
</tr>
<tr>
<td>F(2, 94) = 8.04, p &lt; .001</td>
<td></td>
<td>F(2, 7135) = 4.38, p &lt; .05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a & b Column means (repeated measures ANOVA within Served or Not Served sample) with different superscript letters are significantly different (paired t-test), p < .05. Row means (comparison between Served and Not Served samples) are based on independent t-tests

To further examine this hypothesis, differences in the pre-, one year, and two year post participation number of arrests and number of days spent in jail were compared between the served and not served groups (see Table 3). Independent samples t-tests failed to show any significant difference between the two groups in criminal justice activity at one year pre-, one year post-, or two years post-participation. One-way repeated measures ANOVAs were used to analyze changes over time on the arrest and jail days data for both the served and not served groups, with time as the repeated factor. All of these ANOVAs were significant, indicating a significant difference within groups across pre-, one year, and two years post-participation. Follow-up paired samples t-tests indicated a significant decrease in the average number of arrests for the served group from pre-participation (M = 3.42) to one year post-participation (M = 2.16), and two years post-participation (M = 1.76). For the not served group, the results also indicated a significant decrease in number of arrests from pre-participation (M = 2.91) to one year post-participation (M = 1.72) and two years post-participation (M = 1.88). Although both groups evidenced a significant decrease in number of arrests at one and two years post-participation, results failed to show a significant decrease in mean number of days spent in jail for the served group comparing one-year pre-participation (M = 32.7) to one-year post (M = 31.8); however, the number of days was significantly decreased by two years post-participation (= 23.1) for the served group. By contrast, the not served group decreased significantly in mean number of jail days comparing pre-participation (M = 31.4) to both one year post- (M = 20.9) and two years post-participation (M = 15.3).

Analyses of covariance (ANCOVAs) were conducted in order to determine whether there were significant differences between the served and not served groups on one year and two year post-participation rates of arrest and days in jail, controlling for participants’ rates prior to participation in the diversion program as the covariate. Results of the ANCOVAs failed to indicate a significant difference...
between groups at one year and two years post-participation in either number of arrests, or number of
days in jail, although there was a trend for the not served group to have somewhat fewer average days in
jail in each of the follow-up years.

Cost-Benefits Analyses

To address the hypothesis that the provision of forensic diversion services would result in a
transfer of community costs from the criminal justice system to the mental health system, cost-benefit
analyses were conducted comparing the costs incurred by the group of participants who received mental
health services with those of the group who received a mental health referral while in jail but did not
subsequently obtain mental health services in the community. To examine this hypothesis, pre- and post-
participation costs to both the mental health and criminal justice systems were calculated for the served
and not served groups (see Table 4). Criminal justice costs were calculated for each participant and
summed across each group, based upon an average cost of 81 dollars per day to house an inmate at the
Lucas County Jail. Mental health service utilization costs were obtained from the Lucas County Mental
Health Board and were calculated for each participant based upon billing costs for each unit and type of
service obtained. Total costs were summed across participants for each group. Results of independent
samples $t$-tests did not show a significant difference between the served and not served groups in the
incarceration costs to the criminal justice system at pre-, one year, or two years post-participation. As
expected, significant differences were found between served and not served groups for mental health
costs at pre-, one year, and two years post-participation, with the served group incurring higher mental
health costs at all three times.

Repeated measures ANOVAs, followed by dependent $t$-tests, were conducted in order to examine
whether there were significant within-group differences in total costs incurred by the criminal justice and
mental health systems from pre- to one year, to two years post-participation. For the not served group,
results indicated a significant decrease in costs to the criminal justice system of $828.96 per person from
pre-participation ($M = 2526.96$) to one year post-participation ($M = 1698.00$), and a significant decrease of
$1,212.30 from pre-participation to two years post-participation ($M = 1314.6$). The served group
evidenced a small decrease in criminal justice system costs of $83.93 per person from pre-participation ($M
= 2648.60$) to one year post-participation ($M = 2564.67$), although this difference was not significant.
However, the decrease of $777.50 in the served group comparing pre-participation incarceration costs ($M
= 2648.6$) to two years post-participation ($M = 1871.10$) was significant, $t(82) = 3.39, p < .001.$
Table 4: Means ($SD$) for Mental Health and Criminal Justice System Costs for Served ($N = 83$) and Not Served ($N = 137$) Lucas County Forensic Diversion Project Participants at Pre- and Post-Participation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Served Mean($) (SD)</th>
<th>Not Served Mean($) (SD)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-participation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CJ Incarceration Costs</td>
<td>2648.6a (3125.8)</td>
<td>2526.9a (3478.4)</td>
<td>-.27</td>
<td>.79</td>
</tr>
<tr>
<td>Year One Post-participation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CJ Incarceration Costs</td>
<td>2564.7a (4657.3)</td>
<td>1698.0b (3419.4)</td>
<td>-1.47</td>
<td>.14</td>
</tr>
<tr>
<td>Year Two Post-participation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CJ Incarceration Costs</td>
<td>1871.1b (3018.6)</td>
<td>1314.6b (3142.5)</td>
<td>-1.27</td>
<td>.21</td>
</tr>
<tr>
<td>F(2, 81) = 1.51, p = .22</td>
<td></td>
<td>F(2, 135) = 4.11, p &lt; .05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-participation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH Service Costs</td>
<td>1270.3a (3228.1)</td>
<td>4.99a (37.6)</td>
<td>-3.57</td>
<td>.00</td>
</tr>
<tr>
<td>Year One Post-participation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH Service Costs</td>
<td>1982.2b (3233.7)</td>
<td>.00a (.00)</td>
<td>-5.59</td>
<td>.00</td>
</tr>
<tr>
<td>Year Two Post-participation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH Service Costs</td>
<td>1997.7b (2708.6)</td>
<td>126.7b (556.5)</td>
<td>-3.52</td>
<td>.001</td>
</tr>
<tr>
<td>F(2, 81) = 4.64, p &lt; .05</td>
<td></td>
<td>F(2, 135) = 6.97, p &lt; .001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Total service utilization costs to the Mental Health System were calculated from Lucas County Mental Health Board data, which indicated the cost billed for each individual service. Total incarceration costs to the Criminal Justice System were calculated based upon the average cost per day of $81.00 to house an inmate at the Lucas County Corrections Center.

a & b Column means (repeated measures ANOVA within Served or Not Served sample) with different superscript letters are significantly different (paired t-test), $p < .05$. Row means (comparison between Served and Not Served samples) are based on independent t-tests.

Regarding mental health costs, the served group evidenced a significant increase of $711.94 per person in mental health costs from pre-participation ($M = 1270.28$) to one year post-participation ($M = 1982.22$), $t(82) = -2.41$, $p < .05$. This significant increase was maintained at two years post-participation ($M = 1997.70$), with an average of $727.40 mental health costs per person in year two, $t(82) = -2.53$, $p < .01$. For the not served group, there was no significant change in average mental health costs from pre- ($M = 4.99$) to one year post-participation ($M = 0.0$), but there was a small but significant increase for the not served group at two years post-participation ($M = 126.70$) as 15 of the 137 individuals in the “not served” group (11%) had finally been seen for mental health services during the second follow-up year, $t(136) = 2.54$, $p < .05$.

With regard to a cost-benefit to the County for implementing a diversion program, the cost differences to each system as a whole were calculated and a cost comparison made at one year and two years post-participation for each group. As shown in Table 4, cost savings for the served group did not begin to emerge until two years following initial participation, when the served group significantly decreased their average incarceration costs, while maintaining the same level of average mental health utilization costs. At two years post-participation the served participants had decreased the total costs of incarceration by $70,146 compared to incarceration costs one year prior, with increased costs to the
mental health system of $60,378 compared to one year prior, resulting in a savings to the County of $9,768. However, the not served group provided an even larger savings to the County by year two, as the total costs of incarceration decreased by $161,919 while the cost of mental health service had increased by only $14,953, resulting in a savings to the County of $146,966.

Several follow-up analyses were conducted to further explore the observed increase in mental health service costs for the served group, and the lack of difference in post-arrest rate between the served group of participants and the not served group. Results indicated that served participants who were re-arrested were significantly more likely to have had a concurrent drug or alcohol charge at the original time of arrest, $\chi^2(1) = 3.91, p < .05$.

Independent samples $t$-tests were conducted between served participants who did and did not have post-participation re-arrests to help evaluate the role of other possible variables related to recidivism. Significant differences were found in previous one-year arrests, $t(81) = -4.16, p < .01$, indicating that previous rates of arrest were significantly correlated with re-arrest. Specifically, served participants who did not have any re-arrests had a mean of two arrests in the previous year, as compared to a mean of four arrests for participants who had at least one arrest during the year following diversion program involvement. Significant differences were also found for post-participation case management services, $t(81) = -2.36, p < .05$, pre-participation mental health costs, $t(81) = -1.98, p < .05$, and post-participation mental health costs, $t(81) = -2.05, p < .05$. These results indicate that participants who had at least one re-arrest utilized a significantly greater amount of case management services, and accrued significantly greater mental health treatment costs, both prior to and following diversion program involvement, than those participants without any re-arrests.

**Summary and Conclusions**

The need to promote mental health recovery. As evidenced by the self-report recovery measures, the persons referred to the diversion program are faring significantly worse with regard to their community living skills, feelings of personal empowerment, and overall mental health recovery, compared to forensic consumers who were actively engaged in an ACT model intensive treatment program.

Jail screening and linkage services are helpful, leading to increased mental health utilization. Successful linkage and follow-through with mental health service was 38 percent of those assessed and given community appointments. A significant increase in mental health service utilization hours was also seen, nearly doubling from 17.6 hours to 30.5 hours in the one year post. An increase in service utilization was still seen in the two year post period (23.1 hours), although not statistically significant.

Linkage services alone may not significantly decrease recidivism. Even of those successfully linked, 72 percent were still re-arrested within the first year (no different than the 68% re-arrested for the not served referrals), and there was no difference in the number of days maintained in the community prior to re-arrest between the served and not served group. Also, although there were significant reductions in the average number of arrests in both one year and two year post period for the served group, there were similar reductions seen in the not served group, suggesting that a third variable (not directly related to the diversion program) may be the cause of the decrease seen in both groups.

Cost-benefits may take two years minimum to be seen. Although numbers of arrests decreased significantly in the one year post period for both the served and not served group, it took two years for the number of jail days to show a similar decrease for the served group. Because jail incarceration costs for the served group did not decrease significantly in the one year post period while mental health costs were
significantly increased, any costs transferred from incarceration costs to mental health service costs did not show a savings until two years after initial program referral.

Greater attention must be paid to those with the most serious mental health problems and those with dual diagnosis. Over 60 percent of the consumer-offenders identified had co-occurring substance abuse/dependence. Moreover, participants in the program who had originally been arrested with a substance-related charge were more likely to be re-arrested during the following year. The highest utilizers of community mental health services were also more likely to be re-arrested. Greater attention to the most ill individuals, with increased dual diagnosis treatment is warranted.

Feedback and accountability to Municipal Court personnel (judges, court clerks, probation officers, and public defenders) is essential. The program management transitions, loss of staff and logistical problems involved in working within the Municipal Court meant that feedback and accountability mechanisms were never adequately implemented. Clarity of roles, responsibilities, and expected time frames of all mental health agency providers is critical to provide continuity of care from the jail/court to the community. The accountability desired by the Municipal Court requires a higher degree of interagency communication, better post-release monitoring, and improved agency feedback to the court/jail mental health team. A formal “memorandum of understanding” between these stakeholders could articulate the roles, responsibilities, and expected time frames of each agency.

REFERENCES


**Paper Presentations of the Research**


MENTAL HEALTH RECOVERY AND PSYCHOPATHY
IN A JUVENILE DETENTION CENTER

University of Toledo
Department of Psychology

Gayle H. MacBride, MA                  Wesley A. Bullock, PhD

According to the Federal Bureau of Investigation (2001) in 2000, persons under the age of 18 comprised over 17 percent of all arrests in the United States. Juvenile offenders are a growing consumer market that needs to be addressed. It is important for clinicians to provide services that aid with rehabilitation, which requires knowledge of psychopathy and mental health recovery.

Psychopathy is a construct used by clinicians to describe and understand a sub-group of people who display antisocial behavior and evidence a distinct lack of warmth, caring, and empathy for others (Cleckley, 1976). In adults, psychopathy is more predictive of Antisocial Personality Disorder (APD), than Antisocial Personality Disorder is of psychopathy (Hamburger, Lilienfeld, & Hogben, 1996; Hart & Hare, 1989). The best predictor of psychopathy in adolescents detained in a maximum-security facility was impulsivity, characterized by high rates of aggression and violence (Vitacco & Rogers, 2001), much like the pattern of behavior demonstrated in adults high in psychopathy. Due to the scarcity of work completed within the youthful offender population, rates are not clear and such knowledge would help assess psychopathy in adulthood. While “normal” adolescents possess certain personality traits similar to those found in adults high in psychopathy (Seagrave & Grisso, 2002), these traits are not highly variable over the course of adolescence to adulthood (Lynam, 2002). Adolescence appears to be a reasonable period in which to examine a potential link.

Hoffman (2000) stated that concern for others makes social life possible and is necessary and adaptive for survival. Researchers determined that humans have the ability to empathize beginning at a very young age (Hoffman, 2000), and that ability becomes more sophisticated with experience. It is important to have empathic feelings for others, however it may also be adaptive to turn them off or avoid those feelings. Hoffman (2000) recognized that if feelings are successfully avoided, empathic distress will not increase, and the bystander will not feel committed to give resources (e.g., time or money). This disconnection from others can be necessary due to over-arousal or fatigue. Researchers have not drawn conclusions about why some humans lack the capacity to empathize; in the absence of an Axis I disorder (e.g., Autism), it is often identified as “psychopathy”.

An inverse relationship between empathy and psychopathy levels has been firmly established in adults. Researchers have only begun to examine psychopathy in adolescents and have not been willing to apply the adult model capriciously to a younger population. It is important to more fully understand this constellation of personality characteristics in adolescents as it relates to treatment and adulthood psychopathy.

Lambert, Wahler, Andrade, and Bickman (2001) argued that chronic and severe antisocial behavior is a debilitating form of childhood psychopathology. Research has found that psychopathy can be difficult to treat (Harris, Rice, & Cormier, 1994; Hart & Hare, 1996; Kazdin, 1995; Rice, Harris, & Cormier, 1992), in part because “psychopaths” tend to drop out of treatment prematurely (Ogloff, Wong, & Greenwood, 1990), making the concept of mental health recovery questionable. Since the juvenile justice system is designed to be rehabilitative (Roberts, 1989), the process of mental health recovery of adolescents in the system is important. The origin of the mental health recovery movement can be traced
back to the 1970s (Anthony, 1993); however, most of the research focuses on adults (Fisher & Ahern, 1999). Mental health recovery does not mean the person no longer has the disability; rather, a person is able to accommodate their disability and live a life in which they feel hope and as though they contribute to their community.

The goals of the current study were to examine the level of mental health recovery and psychopathy in the adolescents detained in the Juvenile Detention Center (JDC) in Lucas County, Ohio and the potential relationships.

Hypothesis 1. It was hypothesized if an adolescent scored higher on measures of empathy or mental health recovery, the judge/magistrate would be more likely to utilize probation or treatment options.

Hypothesis 2. It was hypothesized that adolescents who scored higher on the scales of the Antisocial Processes Screening Device (APSD) (Frick & Hare, 2001) would be more likely to be given more restrictive dispositions, such as Department of Youth Services (DYS) commitment.

Hypothesis 3. It was also hypothesized that adolescents who were higher on the self-report of psychopathy would score lower on the Mental Health Recovery Measure-Adolescent Version (MHRM-AV; Young, Bullock, & Ensing, 2000) and on the Ohio Youth Problems, Functioning, and Satisfaction Scales (Ohio Scales; Ogles, Melendez, Davis, & Lunnen, 1999).

Hypothesis 4. It was hypothesized that higher scores on the Massachusetts Youth Screening Inventory – Second Edition (MAYSI-2; Grisso & Barnum, 2000) scales of Depressed-Anxious (D-A), Somatic Complaints (SC), Suicidal Ideation (SI), Thought Disturbance (TD), and Traumatic Experiences (TE) would correlate with lower scores on the APSD-Teacher Version (TV) scales (Callous/Unemotional, Narcissism, and Impulsivity and Total Score) and the APSD-Youth Version (YV). Furthermore, it was expected that the MAYSI-2 scales of Alcohol/Drug Use (A/D) and Angry-Irritable (A-I) correlate with higher APSD scores.

Method

Participants in the current study were adolescents ($n = 189$) detained at the JDC between the ages of 14 and 17 ($M = 15.5$, $SD = 1.02$) and on probation with the Lucas County Juvenile Justice Center’s Department of Probation.

The APSD-YV (Frick & Hare, 2001) was administered to the participants and the APSD-TV was completed by their Probation Officers (PO) to determine the level of psychopathy. Empathy measures included the Interpersonal Reactivity Index (IRI; Davis, 1980) and the Children’s Empathy Questionnaire (CEQ; Funk, Elliott, Bechtoldt, Pasold, & Tsavoussis, 2002), which provide a measure of empathy. As a way to assess general well-being and mental health services, the Ohio Scales (Ogles et al., 1999) was administered to the detainee and PO. The MHRM-AV (Young et al., 2000) assesses mental health recovery in adolescents. MAYSI-2 is a brief screening tool designed for use in the juvenile justice system to identify signs and symptoms of mental/emotional difficulties (Grisso & Barnum, 2000).

The Administrative Judge in the Lucas County Juvenile Court granted consent for the adolescents’ participation for the current study. The current study attempted to contact each juvenile who was on probation and brought into secure detention about their participation, after which the adolescent’s PO was asked to complete the Ohio Scales-Worker (W) form and the APSD-TV for each participant. In addition, information was collected from the detainee’s court files regarding psychosocial history.
Analyses and Results

The mean number of current charges for each participant was 1.73 ($SD = 1.25$). With respect to their criminal histories, the mean number of previously adjudicated offenses was 6.51 ($SD = 4.39$) and the mean number of total arrests was 7.68 ($SD = 4.58$). The mean age at the first delinquency finding was 13.51 ($SD = 1.62$). The first group (DYS/JDC) was comprised of 33.0 percent of the sample ($n = 63$). The second category (Treatment) included 25.1 percent of the sample ($n = 48$). The Probation/Juvenile Restitution Program) JRP group was 32.5 percent of the sample ($n = 62$). Finally, only 7.9 percent of the participants had their current case dismissed ($n = 15$), and were not included in the analyses between disposition groups. Disposition was examined across the highest level of all offenses; however, no significant differences were found $\chi^2 (4, N = 173) = 8.76, p = .07$.

Diagnoses recorded in the current study were those given by previous mental health professionals and included in the Probation file. Percentages reported were based on the number of times a particular diagnosis was recorded among the 189 participants. The groups of diagnoses are as follows: Substance Abuse ($n = 64, 32.7\%$), Affective Disorders ($n = 46, 23.5\%$), Disruptive Behavior Disorder/Intermittent Explosive Disorder ($n = 41, 20.9\%$), Attention Deficit Hyperactivity Disorder ($n = 31, 15.8\%$), Anxiety Disorders, Tic Disorders, Adjustment Disorders, and Attachment Disorders ($n = 14, 7.1\%$), and an “Other” category including, Problems of Abuse ($n = 6$) and Learning Disabilities ($n = 6$) ($n = 12, 6.1\%$).

On the APSD-YV administered to each participant, it was found that the mean score was 14.98 ($SD = 5.4$). With respect to the psychopathy measure completed by the POs, T scores were used to examine overall levels of psychopathy to allow for the relative weight of the psychopathy scores to be examined. The mean Total T score for the APSD-TV was 64.78 ($SD = 9.33$). In the current sample, the APSD-YV score correlated significantly with the Total T score on the APSD-TV, $r = .19$ ($n = 170, p = .01$). The APSD-YV did not correlate with the criminal history variables examined (i.e., number of current charges, number of previous adjudicated offenses, total number of arrests, and age at first delinquency). (See Table 1.) Hypothesis 2, which stated that more restrictive dispositions (i.e., DYS) would be more likely among those with higher levels of psychopathy (as measured by both versions of the APSD), was not supported in the current study. The disposition groups were examined for statistical differences on the scores of psychopathy for both the APSD-YV and the APSD-TV T scores; however, none were found. (Please see Table 2 for significance levels.)

### Table 1. Correlations Between APSD Scores and Criminal History Data

<table>
<thead>
<tr>
<th></th>
<th>APSD-Youth $^b$ ($n = 189$)</th>
<th>APSD-Teacher $^c$ ($n = 170$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of current charges</td>
<td>.02</td>
<td>.03</td>
</tr>
<tr>
<td>No. of previous arrests</td>
<td>.09</td>
<td>.23 **</td>
</tr>
<tr>
<td>Total no. of adjudicated offenses</td>
<td>.13</td>
<td>.16 *</td>
</tr>
<tr>
<td>Age at first delinquency</td>
<td>-.10</td>
<td>-.17 *</td>
</tr>
</tbody>
</table>

*Note.* APSD = Antisocial Process Screening Device  
$^a$ Ns are not equal because some APSD forms completed by POs were invalid, due to missing items.  
$^b$ Completed by the adolescent  
$^c$ Completed by the Probation Officer  
* $p < .05$, ** $p < .01$
Table 2. Summary for Psychopathy Scores on Youth and Teacher\textsuperscript{a} Versions by Disposition Group\textsuperscript{*}

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>(SD)</th>
<th>F (2,170)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>APSD-Youth</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>DYS/JDC</td>
<td>63</td>
<td>14.95</td>
<td>(5.27)</td>
<td>.08</td>
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<tr>
<td>Treatment</td>
<td>48</td>
<td>15.33</td>
<td>(6.20)</td>
<td></td>
</tr>
<tr>
<td>Probation/JRP</td>
<td>62</td>
<td>15.24</td>
<td>(5.25)</td>
<td></td>
</tr>
<tr>
<td><strong>APSD-Teacher C/U T score</strong></td>
<td></td>
<td></td>
<td></td>
<td>.16</td>
</tr>
<tr>
<td>DYS/JDC</td>
<td>55</td>
<td>62.31</td>
<td>(6.94)</td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>42</td>
<td>63.21</td>
<td>(8.88)</td>
<td></td>
</tr>
<tr>
<td>Probation/JRP</td>
<td>58</td>
<td>63.10</td>
<td>(10.21)</td>
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<tr>
<td><strong>APSD-Teacher Narcissism T score</strong></td>
<td></td>
<td></td>
<td></td>
<td>1.34</td>
</tr>
<tr>
<td>DYS/JDC</td>
<td>55</td>
<td>62.95</td>
<td>(9.37)</td>
<td></td>
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<tr>
<td>Treatment</td>
<td>42</td>
<td>64.40</td>
<td>(8.45)</td>
<td></td>
</tr>
<tr>
<td>Probation/JRP</td>
<td>58</td>
<td>61.40</td>
<td>(9.41)</td>
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<tr>
<td><strong>APSD-Teacher Impulsive T score</strong></td>
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<td>2.10</td>
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<tr>
<td>DYS/JDC</td>
<td>55</td>
<td>65.64</td>
<td>(8.10)</td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>42</td>
<td>66.33</td>
<td>(8.30)</td>
<td></td>
</tr>
<tr>
<td>Probation/JRP</td>
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<td>63.38</td>
<td>(6.80)</td>
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<tr>
<td><strong>APSD-Teacher Total T score</strong></td>
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<td></td>
<td>1.27</td>
</tr>
<tr>
<td>DYS/JDC</td>
<td>55</td>
<td>65.18</td>
<td>(7.92)</td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>42</td>
<td>66.33</td>
<td>(8.22)</td>
<td></td>
</tr>
<tr>
<td>Probation/JRP</td>
<td>58</td>
<td>63.55</td>
<td>(9.87)</td>
<td></td>
</tr>
</tbody>
</table>

\textit{Note.} APSD=Antisocial Process Screening Device; DYS=Department of Youth Services; JDC=Juvenile Detention Center; C/U=Callous/Unemotional; JRP=Juvenile Restitution Program.

\textsuperscript{a}Completed by Probation Officers. No statistical differences were found on the APSD-YV and APSD-TV scores.

The mean Total Score on the IRI administered to participants was 56.37 (SD = 13.75). The subscale mean scores were as follows: PD (\(M = 12.62, SD = 4.49\)), FS (\(M = 12.79, SD = 4.93\)), EC (\(M = 16.46, SD = 5.01\)), and PT (\(M = 14.51, SD = 5.41\)). The IRI Total and CEQ total scores were significantly correlated in the positive direction (\(r = .64, n = 183, p < .001\)). With respect to empathy and psychopathy, the current study found that the correlation coefficient between the APSD-YV scores and the Total score on the IRI was \(r = -.21 (n = 189, p = .004)\). Furthermore, the CEQ total score correlated significantly with the APSD-YV scores, \(r = -.27 (n = 183, p = .00)\). The correlation coefficients between the APSD-TV and the IRI Total was \(r = .10 (n = 170, p = .21)\). The ASPD-TV Total T scores also did not correlate significantly with the CEQ Total (\(r = .01, n = 164, p = .89\)). The total scores on the empathy measures (i.e., IRI and CEQ) were examined across disposition groups, but no differences were found, \(F (2,170) = 1.15, p = .32\) and \(F (2,164) = 1.07, p = .35\), respectively. Thus, findings did not support Hypothesis 1, which stated that individuals with higher empathy scores would be more likely to have a treatment or probation disposition.

The mean Total Score on the MHRM-AV was 110.20 (SD = 19.34). The MHRM-AV Total Score and the probationer’s self-report on the APSD yielded a significant correlation in the negative direction (\(r = -.33, n = 188, p = .000\)). This finding supported Hypothesis 3, which stated that higher...
scores on the APSD-YV would be correlated with lower scores on the MHRM. Correlations were performed between the MHRM-AV Total Score and the APSD-TV, but they were not significant ($r = .02, n = 169, p = .77$). No differences were found when the MHRM-AV Total Score was examined across disposition groups [$F(2,169) = 1.51, p = .22$]. Hypothesis 1, which stated that individuals who scored higher on mental health recovery measures would be more likely to receive either a disposition of treatment or probation, was not supported.

The Ohio Scales is a measure that bridges mental health recovery and well-being, the mean scores (standard deviations in parentheses) for the Problems, Hopefulness, Satisfaction with Treatment, and Functioning scales are as follows: 27.39 (15.29), 12.38 (4.38), 12.88 (5.29), and 53.94 (13.27). The mean scores for the Ohio Scales-W form were also calculated. The mean Problems score on the Ohio Scales W form was 33.96 ($SD = 14.17$); the mean score on the Functioning Scale on the W form was 30.47 ($SD = 13.95$) and, the average Restrictiveness of Living Environment Scale (ROLES) score was 290.62 ($SD = 116.12$). There was a significant positive correlation between Ohio Scales-Youth (Y) form Problems scores and the APSD-Y form score ($r = .47, n = 189, p = .000$). Furthermore, there was a significant correlation, in the positive direction, between the Ohio Scales-Problems Y form score and the Total APSD–TV T score ($r = .18, n = 170, p = .02$). The findings further supported Hypothesis 3, which stated that higher scores on the self-report measures of psychopathy would be negatively related to current level of functioning. The Ohio Scales-Y form Functioning also was significantly correlated with the APSD-YV data, in the negative direction ($r = -.37, n = 189, p = .000$). It did not correlate significantly with the APSD-TV Total T score ($r = -.08, n = 170, p = .31$). The Ohio Scales-W form Problems scale correlated significantly with the APSD-YV Total score ($r = .17, n = 177, p = .02$). The Ohio Scales-W form Functioning scale did not correlate significantly with the APSD-YV Total Score ($r = -.13, n = 176, p = .10$). Both scores (Problems and Functioning) on the Ohio Scales-W form correlated at a level that reached significance with the APSD-TV Total T score ($r = .57, n = 165, p = .000; r = -.50, n = 164, p = .000$, respectively).

As a comparison of mental health recovery the Ohio Scales-Y form (Hopefulness and Satisfaction with Treatment scales) and the MHRM-AV were compared. The correlation coefficient between the Hopefulness scale and the MHRM-AV Total was $r = -.49 (n = 187, p = .000)$. The correlation coefficient for the Satisfaction with Treatment scale and the MHRM-AV Total was $r = -.39 (n = 164, p = .000)$.

The mean scores on each of the MAYS-2 scores were calculated, which were as follows: Alcohol/Drug Use scale ($M = 1.70, SD = 2.34$), Anger-Irritability ($M = 2.74, SD = 2.87$), Depressed-Anxious ($M = 1.62, SD = 1.98$), Somatic Complaints ($M = 1.77, SD = 1.99$), Suicidal Ideation scale ($M = .89, SD = 1.54$), Thought Disturbance scale ($M = .55, SD = 1.13$), Traumatic Experiences index ($M = 1.30, SD = 1.52$). The MAYS-2 scores were examined in relation to the scores on the APSD-YV and TV Total scores. Most of the correlations did not reach a level of significance. The Alcohol/Drug Use score and APSD-YV and TV correlations were as follows: $r = .24, n = 172, p = .002; r = .05, n = 154, p = .51$, respectively. The correlation between the Anger-Irritability score and the APSD-YV was $r = .14, n = 172, p = .06$ and for the TV it was $r = .04, n = 154, p = .60$. Similarly, the correlation between the Depressed-Anxious score and the APSD-YV and TV were $r = .06, n = 172, p = .845 r = .06, n = 154, p = .49$, respectively. The correlation between the Somatic Complaints score and the APSD-YV score was $r = .09, n = 172, p = .25$ and the correlation coefficient between the APSD-YV was $r = -.14, n = 154, p = .10$. The correlation between the Suicidal Ideation score and the APSD-YV was $r = .12, n = 170, p = .12$ and for the APSD-TV it was $r = .04, n = 152, p = .65$. The Thought Disturbance score was correlated with the APSD-YV and TV as follows: $r = -.02, n = 141, p = .80; r = -.02, n = 126, p = .87$, respectively. Finally, the Traumatic Experience index the APSD-YV and TV were correlated as follows: $r = .10, n = 171, p = .20; r = -.01, n = 153, p = .90$, respectively.
**Discussion and Implications**

The current study was exploratory in nature; it addressed a variety of issues related to juveniles in a detention facility, primarily of which were the constructs of mental health recovery and psychopathy. There were some procedural limitations to the current study, which undoubtedly impacted the generalizability of the data to other populations. Females and persons from certain ethnic groups (e.g., Biracial, Hispanic, and Asian) were underrepresented in the current sample as compared to the community population and compared to the information provided regarding the population at the JDC (Kathleen F. Baird, Ph.D., Personal Communication, February 11, 2002). This may be indicative of a sampling problem or a result of differences between detainees as a whole and those on probation. Another limitation of the current study was the groups of adolescents not included, such as adolescents being considered for certification to the adult court system and those who refused. Overall, these adolescents were few and not thought to have impacted the data significantly. Also, an unknown percentage of adolescents were released before being seen by the Principal Investigator. It is not known if those who were released significantly impacted the data collected.

With respect to those who participated, adolescents in the current study were fairly experienced in the juvenile justice system. The dispositions of the juveniles were of particular interest in the current study, with the focus on the most restrictive option ordered by the court. Possible reasons for the lack of differences among the disposition groups might be due to the inclusion of the JDC disposition with those committed to DYS or due to the budget problems in the State limiting the options of the court.

Almost one-third of the sample did not have a mental health diagnosis recorded in their court files. Of the remaining two-thirds, the most frequent diagnosis recorded for the adolescents in the sample was substance use/abuse related diagnosis. This was consistent with the literature on juvenile offenders (Lexcen & Redding, 2000).

Psychopathy scores on the APSD-YV and TV correlated significantly, which indicated that the adolescent and the PO seem to agree somewhat about the relative level of psychopathy traits. Criminal offense-related variables (e.g., being arrested) did not correlate significantly with scores on the APSD-TV Total T score, which was not surprising because the hallmark of psychopathy is not criminality. Hypothesis 2 was not supported, when the data showed that more restrictive dispositions (i.e., DYS) were not more likely among those with higher levels of psychopathy. This finding may be a reflection of the current budget situation in the State or due to the relatively low number of adolescents who committed felony crimes.

The current study found a strong correlation between the scores on the IRI and the CEQ, which suggested that the IRI and the CEQ are measuring similar, but not identical concepts. The differences between the two measures might be a result of the different levels at which these measures are written. The data did not support the conclusion that the relative lack of empathy in these adolescents was a result of psychopathy. This phenomenon may be the result of what Hoffman (2000) described as avoiding empathic arousal as a means of psychological protection. The data did not support Hypothesis 1, which stated that increased levels of empathy would be found in those adolescents who were ordered into treatment or probation. This outcome could be due to the shortages in the State budget and/or because options previously available in the community are no longer available.

The data were mixed with respect to Hypothesis 3, which stated that increased APSD scores would be correlated with decreased scores on the MHRM-AV. The MHRM-AV was significantly related to the APSD-YV; those adolescents who scored low on measures of psychopathy were likely to score high on the MHRM-AV. Conversely the MHRM-AV and the APSD-TV were not significantly related. This finding may be a result of several things, such as incomplete communication, the adolescent’s desire...
and capacity for change and the adolescent’s changing thoughts and ideas regarding their current legal situation.

The correlations between the scales on the APSD-TV and Ohio Scales W form were correlated significantly with each other, in the anticipated directions. The higher the overall level of psychopathy, the lower the level of perceived functioning (Ohio Scales) and the higher the level of problems reported on the Ohio Scales.

Each of the MAYSI-2 mean scores fell below the “Caution” cutoff, which was designed to indicate “possible clinical significance”. There were mixed data regarding Hypothesis 4, which stated that the APSD scores would be lower in those with higher Depression-Anxious, Somatic Complaints, Thought Disturbance, and Traumatic Experience scores on the MAYSI-2 and APSD scores would be higher for those with higher scores on the Alcohol/Drug Use and Anger-Irritability scores on the MAYSI-2. Consistent with previous research with incarcerated adults and adolescents (Lexcen & Redding, 2000; Smith & Newman, 1990), the self-reported Alcohol/Drug Use score on the MAYSI-2 was related to an increased APSD-YV score. This correlation did not hold between the Alcohol/Drug Use scale and the APSD-TV scores, which might be due to the inappropriate completion of the MAYSI-2 by some participants. This discrepancy may be the result of consistent underreporting. Adolescents may have underrated themselves on psychopathy and on the Alcohol/Drug Use scale, therefore a more accurate reporter, in this instance, may be the PO. Measures of mental health and psychopathy were expected to show a negative relationship; those participants with higher levels of symptom distress on the MAYSI-2 were expected to be lower in psychopathy based on the work of Hart and Hare (1989). However, this was not found in the current study, also likely due to some underreporting on the MAYSI-2.

Overall, correlations on measures administered were often reporter-specific. Adolescents can often perceive their own areas of weakness, which may reveal more about the offenders than did the POs’ reports. The reader must be careful not to place a higher value on one report over another; the current study views both as valuable inputs, neither as “wrong,” just pieces to a puzzle.

Potential Policy Implications

In addition to contributing to the psychopathy and mental health recovery literature, the current study will allow detention, court, and probation staff to better understand some of the personality characteristics that are typical of delinquent adolescents. It may also help to demonstrate the levels of empathy that can be expected from adolescents involved in the juvenile justice system, which for a variety of reasons may be impaired. The current study may also help workers in this population more fully understand the level of mental health functioning and the level of mental health recovery in these adolescents. These understandings will hopefully then assist in making the most appropriate treatment recommendations for these adolescents.

The constructs of psychopathy and mental health recovery will assist in answering the question of amenability to treatment, in a population that is higher in psychopathy than the general community. Recovery is a very personal process and perhaps the main message from the current study is that nobody can know another’s level of mental health recovery without careful questioning and examination. In addition, while mental health recovery is very important, it does not seem to have an apparent impact on the juvenile justice system at this time. It would be useful to work with the juvenile court regarding issues of mental health recovery so that in the future, this concept can be interwoven with the “rehabilitation” model of the court.
REFERENCES


**Paper Presentation of the Research to Date**

MacBride, G. H. (2003, November). *Mental health recovery and psychopathy in a juvenile detention center*. Paper presented at the Ohio Department of Mental Health Research Results Briefing 2003, Columbus, OH.
EFFECTIVENESS OF COGNITIVE SKILLS TRAINING
FOR DUALLY DIAGNOSED PERSONS WITH MENTAL ILLNESS

Wright State University

Department of Community Health             School of Professional Psychology

Dennis Moore, EdD                 Jeffery Allen, PhD

Research suggests that a number of persons who utilize community mental health services experience cognitive limitations that adversely impact their ability to benefit from those services. This may be particularly true for individuals who experience the dual conditions of mental illness and substance dependence. The provision of traditional “cognitive rehabilitation” may not be feasible either because most community rehabilitation is not sufficiently intensive or because the cognitive impairments may not be amenable to change. In these cases, an alternative approach is to provide individuals with strategies for understanding the extent and contexts of their cognitive limitations, and then assisting them in developing compensation strategies for accommodating to their cognitive limitations. This project was a pilot study of cognitive compensation skills training (CCST) as an adjunct to alcohol and drug treatment for persons with mental illness coexisting with substance dependence.

Statement of the Problem

It is estimated that as many as half of all individuals with a serious mental illness are also dependent on alcohol and/or illicit drugs (Bellack & DiClemente, 1999; Kessler et al., 1996). In the rehabilitation field, substance abuse among persons with mental illness has been found to impact negatively on employment and rehabilitation outcomes (Brown & Saura, 1996). Finally, substance abuse diagnoses often cost more to treat than other chronic conditions (e.g., arthritis, asthma, and diabetes), especially for individuals with mental health claims (Garnick, Hendricks, Comstock, & Horgan, 1997).

Mental illness and substance abuse both can lead to cognitive impairments, but when these conditions co-occur, cognitive impairments are especially likely to impact treatment outcomes (Bates & Convit, 1999; Burns & Teesson, 2002; Ross, 1995). Effective treatment of mental illness must take into account differences among consumers in their levels of cognitive functioning (Silverstein, Hitzel, & Schenkel, 1998). This is of particular importance when additional disabilities such as substance use disorder or traumatic brain injury (TBI) are present. However, the vast majority of chemical dependency treatment programs do not address the potential cognitive limitations of their clients (Drake, Alterman, & Rosenberg, 1993; Kaufman & Charney, 2000). For example, many treatment models utilize psychoeducational components, which typically involve didactic instruction in a group setting (e.g., teaching the clients about their illnesses and explaining risk factors). The extent of memory, attention/concentration, and analytical thinking deficits frequently present in persons with mental illness (particularly in combination with prolonged substance use and/or TBI) may render instructional components delivered at a “standard level” less effective. Consequently, it has been suggested that cognitive limitations that go unaddressed are one important cause of treatment failures in programs serving dually diagnosed mental health consumers (Bellack & DiClemente, 1999; Wilson, 2000).
Hypotheses

We proposed to pilot test CCST in two substance use disorder treatment programs among persons with dual diagnoses, using a randomized control group design. The three primary hypotheses were as follows:

1. Participants in treatment will exhibit cognitive dysfunction across one or more of three major areas: executive functions, attention and memory.
2. CCST completers will demonstrate improved cognitive functioning and greater knowledge of cognitive compensation strategies, relative to participants in the control group.
3. CCST completers will demonstrate greater levels of treatment improvement relative to participants in the control group, including less use of alcohol and other drugs and lower levels of psychiatric symptoms, as well as higher therapist ratings and self-perceptions of functioning and higher levels of life satisfaction.

Methodology

Intervention and Subjects. The intervention was initially piloted in the Consumer Advocacy Model (CAM) program in Dayton, Ohio, which is an outpatient alcohol, drug, and mental health treatment provider specifically tailored to persons with disabilities. A second intervention site, the Nova House residential “substance abuser-mentally ill” (SAMI) program, was also recruited for this study. Initially, any new program consumer 18 years of age or older with a diagnosed mental illness was eligible for enrollment; however, this inclusion protocol was expanded in the last 18 months of the study to include anyone with a substance use disorder and any other co-existing disability. Participants in both the experimental and control groups were compensated the equivalent of $3 per session to be involved in the study, in addition to receiving $10 for the intake and follow-up assessments. Randomly assigned control subjects were involved with a comparable amount of programming at their treatment site weekly.

The CCST modules consisted of a series of group sessions specifically addressing selected aspects of cognitive functioning, including Understanding Meta-Memory and Perception, Problem Solving and Short-term Memory, Long-term Memory, Long-term and Remote Memory, Attention, Foresight and Planning, Judgment and Reasoning, Problem Solving and Decision Making. A 250-page training manual was developed and field tested over the course of the study, including a 93-page memory notebook with exercises and activities that was given to each participant. Each group was conducted by a Master’s level research assistant specifically trained in the modules. Originally intended to be 24 sessions in length (two times per week for three months), the CCST intervention was reduced in the total number of sessions to eight (one session per week for two months), but the session time was doubled in length to allow for more in-group practice sessions. The changes in CCST were necessary in order to accommodate transportation and timing barriers reported by participants and clinical staff in the primary study site.

Instruments. The instrumentation involved several neuropsychological measures, alcohol and drug use severity ratings, determinations of mental health status, and measures of satisfaction with life. The primary instruments for quantifying cognitive impairments involved a battery of seven neurocognitive measures. The neurocognitive measures were chosen based upon their perceived emphasis in regard to three major areas of the cognition process which previous research suggests are impacted by substance use/abuse.
Measures/Tests | Perceived Area of Primary Cognitive Emphasis
--- | ---
Brief Test of Attention (BTA) | Attention
Ruff 2 & 7 Test | Attention
Trail Making Test | Executive Functioning
Revised Token Test | Executive Functioning
Ravens Coloured Progressive Matrices Test | Executive Functioning
Rey Complex Figure Test (RCFT) | Memory
Rey Auditory Verbal Learning Test (RAVLT) | Memory

### Results

The analyses are based on a combined sample of 155 individuals (112 experimental; 43 control) participating in either CAM or Nova House, and follow-up data were obtained from 93 (62 experimental; 31 control) of these persons. On average the Experimental subjects completed 15 of 20 hours of the CCST modules with less than 25 percent completing 12 hours or less and more than 25 percent completing the entire program.

Although the initial intent was to recruit subjects with coexisting mental illness, this did not result in recruitment of sufficient subjects. Therefore, subjects with other co-existing disabilities were also recruited during the second 18 months of the project, with the approval of ODMH staff. Approximately 60 percent of the entire cohort was diagnosed as having a mental illness. Although the subjects from the residential and outpatient programs did not appear to differ in regard to their overall ratings on the Brief Psychiatric Rating Scale (BPRS), they did with regard to the “Sense of Helplessness & Hopelessness” they reported. The expression of hopelessness/helplessness voiced by the outpatient subjects was significantly higher than that reported by subjects housed in the residential program.

Approximately 31 percent of the CAM clients reported having a physical disability, while 35 percent reported having a speech impairment, 17 percent reported having a hearing impairment, nine percent reported having a visual problem, and 10 percent reported that they were suicidal.

**Hypothesis 1:** Participants will exhibit cognitive dysfunction across one or more of three major areas: executive functioning, attention, and memory.

Criteria scores observed for study participants were compared with normative data. Each criterion score was converted into a normative-based percentile value that was then evaluated at or below the 10th percentile (deemed a stringent measure of cognitive dysfunction) or above the 10th percentile (deemed to not be reflective of a cognitive dysfunction). The results of this initial set of transformations confirmed that participants were well below available normative samples in regard to cognitive functioning.

Next, the numbers of subjects who exhibited impairments in none, one, two, or three of the cognitive areas--Attention, Executive Functioning and Memory--were determined and then compared with expected frequencies under the null form of the hypothesis (i.e., participants will exhibit no cognitive dysfunction scores across any of the three major areas of cognition). If one assumes that cognitive impairments are unrelated, then the expected percentages of cases one might expect to observe under the null form of the hypothesis would be 70 percent (none), 10 percent (one), 10 percent (two), 10 percent (three), which would reflect the use of the normative-based 10th percentiles when generating the impairment indicators. The results associated with this analysis are summarized in Table 2. Participants
did exhibit cognitive impairments across one or more of the three cognitive areas specified. For that matter, over 40 percent of the subjects exhibited impairments across all three cognitive areas. Related descriptive data revealed that roughly 37 percent of the subjects had an attention-related impairment, 74 percent had executive functioning impairment, and 73.5 percent had memory impairment.

Table 1. Selected Demographic/Background Characteristics of Participants in the Study

<table>
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<td></td>
<td>Male</td>
<td>66.7%</td>
</tr>
<tr>
<td>Age</td>
<td>Mean</td>
<td>37.8 Yrs.</td>
</tr>
<tr>
<td></td>
<td>Standard Deviation</td>
<td>9.4</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>White</td>
<td>56.9%</td>
</tr>
<tr>
<td></td>
<td>African-American</td>
<td>43.1%</td>
</tr>
<tr>
<td></td>
<td>Other Minority</td>
<td>0.0%</td>
</tr>
<tr>
<td>Education Level</td>
<td>12th Grade or Less</td>
<td>43.6%</td>
</tr>
<tr>
<td></td>
<td>12th Grade or GED</td>
<td>37.6%</td>
</tr>
<tr>
<td></td>
<td>More Than 12th Grade</td>
<td>18.8%</td>
</tr>
</tbody>
</table>

Table 2. Observed Number of Cognitive Impairments by Number of Areas

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Response Categories</th>
<th>Numbers Of Cases Observed By Categoryb</th>
<th>Test Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Cognitive Areas In Which an Impairment Was Observed</td>
<td>0 (No Impairments Noted)</td>
<td>11 (7.1%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 (Impairment in One Cognitive Area Only)</td>
<td>34 (21.9%)</td>
<td>$\chi^2 = 240.1$</td>
</tr>
<tr>
<td></td>
<td>2 (Impairments in Two Cognitive Areas)</td>
<td>47 (30.3%)</td>
<td>($p &lt; .000$)</td>
</tr>
<tr>
<td></td>
<td>3 (Impairments in Three or More Cognitive Areas)</td>
<td>63 (40.6%)</td>
<td></td>
</tr>
</tbody>
</table>

a Attention, executive functioning, and memory areas
b The reported $\chi^2$-value is based on the expected frequencies described in text (e.g., 70%, 10%, 10%, 10%).

Hypothesis 2: CCST completers will demonstrate improved cognitive functioning and greater knowledge of cognitive compensation strategies, relative to participants in the control group.

The primary concern focused upon assessing whether the changes in the cognitive criteria
observed for the experimental subjects differed significantly from the associated changes observed for the control subjects. The descriptive statistics associated with the indicated analysis are summarized in Table 3, while the MANOVA results are provided in Table 4.

Table 3. Pre- to Post Performance of Control and Experimental Subjects Across 14 Neurocognitive Measures/Criteria

<table>
<thead>
<tr>
<th>Cognitive Area</th>
<th>Criterion Variables</th>
<th>Group Means (SD)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Control</td>
<td>Pretest</td>
<td>Posttest</td>
<td>Experimental</td>
<td>Pretest</td>
</tr>
<tr>
<td>Attention</td>
<td>BTA Total Score</td>
<td>13.1 (3.7)</td>
<td>13.5 (4.1)</td>
<td>12.9 (4.1)</td>
<td>13.6 (4.4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ruff Speed Score</td>
<td>46.3 (11.5)</td>
<td>50.6 (12.7)</td>
<td>44.6 (13.5)</td>
<td>49.0 (13.9)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ruff Accuracy Score</td>
<td>47.3 (9.7)</td>
<td>47.0 (11.2)</td>
<td>47.0 (9.9)</td>
<td>45.5 (10.5)</td>
<td></td>
</tr>
<tr>
<td>Executive</td>
<td>Trails Part A Time</td>
<td>41.2 (21.4)</td>
<td>37.9 (17.8)</td>
<td>44.6 (30.2)</td>
<td>39.8 (25.5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trails Part B Time</td>
<td>135.1 (91.0)</td>
<td>115.4 (62.5)</td>
<td>147.4 (116.6)</td>
<td>133.7 (110.8)</td>
<td></td>
</tr>
<tr>
<td>Functioning</td>
<td>Token Total Score</td>
<td>40.0 (4.3)</td>
<td>40.4 (4.2)</td>
<td>40.3 (4.4)</td>
<td>40.2 (4.5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Raven Total Score</td>
<td>27.2 (6.6)</td>
<td>27.9 (5.1)</td>
<td>27.9 (5.3)</td>
<td>28.1 (6.7)</td>
<td></td>
</tr>
<tr>
<td>Memory</td>
<td>RCF Copy Score</td>
<td>29.2 (7.3)</td>
<td>29.5 (7.2)</td>
<td>28.7 (8.3)</td>
<td>29.1 (8.1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RCF Immediate Recall</td>
<td>13.9 (7.8)</td>
<td>16.4 (9.8)</td>
<td>12.6 (7.6)</td>
<td>16.7 (9.9)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RCF Delayed Recall</td>
<td>13.0 (8.4)</td>
<td>16.5 (9.5)</td>
<td>11.5 (8.0)</td>
<td>15.8 (10.2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RAVLT Total Recall</td>
<td>41.4 (10.3)</td>
<td>45.9 (12.5)</td>
<td>42.3 (11.1)</td>
<td>46.2 (12.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RAVLT Immediate Recall</td>
<td>8.2 (3.2)</td>
<td>9.1 (3.6)</td>
<td>7.9 (3.2)</td>
<td>9.2 (3.8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RAVLT Delayed Recall</td>
<td>8.1 (3.8)</td>
<td>8.6 (3.5)</td>
<td>8.0 (3.3)</td>
<td>9.4 (3.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RAVLT Recognition</td>
<td>13.6 (1.8)</td>
<td>13.9 (1.4)</td>
<td>13.7 (1.8)</td>
<td>13.9 (1.8)</td>
<td></td>
</tr>
</tbody>
</table>

Note. For this analysis, n = 28 for the Control Group and n = 57 for the Experimental Group.

Generally speaking, scores on cognitive tests tended to increase from the pre- to post-tests for both the intervention and the control groups; hence this hypothesis could not be supported. At the same time, the changes observed across the two groups of subjects in the study appear to be quite constant (i.e., positive changes in one group are generally mirrored by like changes in the other group), which suggests that there may be a significant pre vs. post main effect. The related results in Table 4 verify that in effect such a significant main effect was observed. That is, the overall performance of all the subjects in the study (both Control and Experimental subjects) appeared to increase from the time of pre-testing to the time of post-testing by an amount that could not be attributed to chance alone.
### Table 4. Results of the Multivariate, Mixed-Model Analysis

<table>
<thead>
<tr>
<th>Test Statistics</th>
<th>Criterion Variables</th>
<th>Statistical Hypotheses Evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Experimental vs. Control</td>
</tr>
<tr>
<td><strong>Multivariate F</strong></td>
<td></td>
<td>$F_{14,70} = 0.5$ ($p = .905$)</td>
</tr>
<tr>
<td><strong>Univariate F's (Follow-Up)</strong></td>
<td>BTA Total Score</td>
<td>$F = 0.0$ ($p = .948$)</td>
</tr>
<tr>
<td></td>
<td>Ruff Speed Score</td>
<td>$F = 0.3$ ($p = .578$)</td>
</tr>
<tr>
<td></td>
<td>Ruff Accuracy Score</td>
<td>$F = 0.2$ ($p = .682$)</td>
</tr>
<tr>
<td></td>
<td>Trails Part A Time</td>
<td>$F = 0.2$ ($p = .635$)</td>
</tr>
<tr>
<td></td>
<td>Trails Part B Time</td>
<td>$F = 0.5$ ($p = .502$)</td>
</tr>
<tr>
<td></td>
<td>Token Total Score</td>
<td>$F = 0.0$ ($p = .963$)</td>
</tr>
<tr>
<td></td>
<td>Raven Total Score</td>
<td>$F = 0.1$ ($p = .725$)</td>
</tr>
<tr>
<td></td>
<td>RCF Copy Score</td>
<td>$F = 0.1$ ($p = .798$)</td>
</tr>
<tr>
<td></td>
<td>RCF Immediate Recall</td>
<td>$F = 0.1$ ($p = .794$)</td>
</tr>
<tr>
<td></td>
<td>RCF Delayed Recall</td>
<td>$F = 0.4$ ($p = .553$)</td>
</tr>
<tr>
<td></td>
<td>RAVLT Total Recall</td>
<td>$F = 0.1$ ($p = .820$)</td>
</tr>
<tr>
<td></td>
<td>RAVLT Immediate Recall</td>
<td>$F = 0.0$ ($p = .870$)</td>
</tr>
<tr>
<td></td>
<td>RAVLT Delayed Recall</td>
<td>$F = 0.2$ ($p = .665$)</td>
</tr>
<tr>
<td></td>
<td>RAVLT Recognition</td>
<td>$F = 0.0$ ($p = .991$)</td>
</tr>
</tbody>
</table>

**Note.** For this analysis, $n = 28$ for the Control Group and $n = 57$ for the Experimental Group. Each of the bolded $F$-Values is significant at $\alpha = .001$ level.

The results of the Experimental vs. Control Hypothesis summarized in Table 4 reaffirm the comparability of the criterion scores across the two experimental conditions or groups. The overall levels of criterion performance of the two groups of subjects appeared to be quite similar when collapsed across the pre- and post-tests. When taken together, the results show that cognitive performance on six of the 14 cognitive measures for the subjects in the study increased significantly between the time of pre-testing and the time of post-testing, with five of the six being in the memory area. Based on recent literature regarding the impact of alcohol and drug use on cognitive functioning, these findings may suggest that a combination of practice effects and “sobering up” may account for the consistent improvements (Bates, et al., 2002).

**Hypothesis 3**: CCST completers will demonstrate greater levels of treatment improvement relative to participants in the control group, including less use of alcohol and other drugs and lower levels of psychiatric symptoms, as well as higher therapist ratings and self-perceptions of functioning and higher levels of life satisfaction.

The results generated via the related mixed model ANOVAs are summarized in Table 5 (Descriptive Statistics) and Table 6 (Mixed Model Analyses). Overall, the results presented in these tables do not support Hypothesis 3. More specifically, those results do not demonstrate that participation in the CCST Modules leads to greater levels of treatment improvement than does participation in the control group. Apparently the changes noted are not uniquely related to use of the CCST Modules, but are effects associated with participation in substance abuse treatment.
One of the most consistent results dealt with the changes in subjects’ ratings of their cognitive scores between pre- and post testing. For some reason, between those two assessment points the respondents, both those in the control and experimental groups, significantly reduced their self-appraisals of their own cognitive skill levels. As shown in Table 6, these changes were observed across all cognitive areas considered.

**Discussion and Conclusions**

**Cognitive Functioning of Study Participants.** Regardless of the specific combination of identified disabilities, subjects at both research sites were documented with appreciable levels of cognitive impairment. At the time of entry into the study, cognitive performance of subjects was substantially lower than normative samples, with a third or more at or below the 10th percentile on performance averaged across all measures. Although memory functions were the most depressed, deficits in attention and executive functioning also were low. Notably, 61 percent of subjects on the Trails Making Test – Part B and 58 percent of subjects on the RCF – Immediate Recall scored in the lowest 10 percent on the published norms of those instruments.

Table 5. Selected Pre-Post Statistics on Variables of Interest

<table>
<thead>
<tr>
<th>Cluster Or Area</th>
<th>Dependent Variables</th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance Use/ Abuse Indicators</td>
<td>Frequency of Use - Primary Drug</td>
<td>1.6 (1.9)</td>
<td>1.2 (1.9)</td>
</tr>
<tr>
<td></td>
<td># Days Used Alcohol in Last 30</td>
<td>2.3 (4.8)</td>
<td>1.7 (5.2)</td>
</tr>
<tr>
<td></td>
<td># Days Used Drugs in Last 30</td>
<td>2.3 (4.0)</td>
<td>0.9 (2.1)</td>
</tr>
<tr>
<td></td>
<td># Times Treated for Alcohol Problems in Last 9 Months</td>
<td>4.4 (11.3)</td>
<td>6.7 (15.4)</td>
</tr>
<tr>
<td></td>
<td># Times Treated for Drug Problems in Last 9 Months</td>
<td>5.5 (11.4)</td>
<td>5.8 (10.7)</td>
</tr>
<tr>
<td></td>
<td># Days Treated as Alcohol Outpatient in Last 30</td>
<td>2.3 (6.9)</td>
<td>6.9 (14.1)</td>
</tr>
<tr>
<td></td>
<td># Days treated as Drug Outpatient in Last 30</td>
<td>3.4 (7.2)</td>
<td>5.5 (7.9)</td>
</tr>
<tr>
<td></td>
<td>ASI Alcohol Use Score</td>
<td>0.17 (0.17)</td>
<td>0.14 (0.12)</td>
</tr>
<tr>
<td></td>
<td>ASI Drug Use Score</td>
<td>0.10 (0.07)</td>
<td>0.07 (0.04)</td>
</tr>
<tr>
<td>Psychiatric/Other Variables</td>
<td># ER Admits in Last 12 Months</td>
<td>0.5 (0.8)</td>
<td>0.5 (0.8)</td>
</tr>
<tr>
<td></td>
<td>Brief Psychiatric Rating Scale Score</td>
<td>27.6 (6.5)</td>
<td>26.4 (7.2)</td>
</tr>
<tr>
<td></td>
<td>Admitted to Hospital for AOD Problem in Last 9 Months?</td>
<td>0.2 (0.4)</td>
<td>0.2 (0.4)</td>
</tr>
<tr>
<td></td>
<td>Satisfaction with Life Score</td>
<td>14.9 (7.6)</td>
<td>14.1 (7.3)</td>
</tr>
<tr>
<td>Therapists’ Ratings of Subjects’ Cognitive Skill Levels</td>
<td>Memory</td>
<td>2.5 (1.4)</td>
<td>2.3 (1.1)</td>
</tr>
<tr>
<td></td>
<td>Attention</td>
<td>2.5 (1.3)</td>
<td>2.2 (1.0)</td>
</tr>
<tr>
<td></td>
<td>Problem Solving</td>
<td>2.4 (1.2)</td>
<td>2.0 (1.0)</td>
</tr>
<tr>
<td></td>
<td>Reasoning</td>
<td>2.3 (1.2)</td>
<td>1.9 (1.0)</td>
</tr>
<tr>
<td>Subjects’ Ratings of Own Cognitive Skill Levels</td>
<td>Memory</td>
<td>3.3 (2.5)</td>
<td>2.7 (2.0)</td>
</tr>
<tr>
<td></td>
<td>Attention</td>
<td>3.2 (2.5)</td>
<td>2.3 (2.1)</td>
</tr>
<tr>
<td></td>
<td>Problem Solving</td>
<td>3.1 (2.5)</td>
<td>2.5 (2.1)</td>
</tr>
<tr>
<td></td>
<td>Reasoning</td>
<td>2.7 (2.3)</td>
<td>2.3 (2.1)</td>
</tr>
<tr>
<td>Test Statistics</td>
<td>Dependent Variables</td>
<td>Exper. vs. Control</td>
<td>Pre vs. Post</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------</td>
<td>-------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Univariate Fs</td>
<td>Frequency of Use - Primary Drug</td>
<td>$F_{1,73} = 0.1$ ($p = .78$)</td>
<td>$F_{1,73} = 8.3$ ($p = .01$)</td>
</tr>
<tr>
<td></td>
<td># Times Treated for Drug Problems in Last 9 Months</td>
<td>$F_{1,62} = 4.4$ ($p = .05$)</td>
<td>$F_{1,62} = 0.3$ ($p = .61$)</td>
</tr>
<tr>
<td></td>
<td>ASI Alcohol Use Score</td>
<td>$F_{1,72} = 0.1$ ($p = .76$)</td>
<td>$F_{1,72} = 2.0$ ($p = .16$)</td>
</tr>
<tr>
<td></td>
<td>ASI Drug Use Score</td>
<td>$F_{1,52} = 1.3$ ($p = .27$)</td>
<td>$F_{1,52} = 1.7$ ($p = .20$)</td>
</tr>
<tr>
<td></td>
<td>Brief Psychiatric Rating Scale Score</td>
<td>$F_{1,91} = 0.0$ ($p = .87$)</td>
<td>$F_{1,91} = 5.0$ ($p = .03$)</td>
</tr>
<tr>
<td></td>
<td>Admitted to Hospital for AOD Problem in Last 9 Months?</td>
<td>$F_{1,46} = 2.6$ ($p = .12$)</td>
<td>$F_{1,46} = 1.1$ ($p = .30$)</td>
</tr>
<tr>
<td></td>
<td>Satisfaction with Life Score</td>
<td>$F_{1,47} = 0.6$ ($p = .45$)</td>
<td>$F_{1,47} = 0.1$ ($p = .73$)</td>
</tr>
<tr>
<td>Multivariate Fs</td>
<td>Memory</td>
<td>$F_{5,86} = 3.1$ ($p = .01$)</td>
<td>$F_{5,86} = 1.5$ ($p = .20$)</td>
</tr>
<tr>
<td>(Follow-Ups)</td>
<td>Attention</td>
<td>$F_{1,90} = 2.6$ ($p = .11$)</td>
<td>$F_{1,90} = 2.1$ ($p = .16$)</td>
</tr>
<tr>
<td>Client Rating</td>
<td>Problem Solving</td>
<td>$F_{1,90} = 1.2$ ($p = .28$)</td>
<td>$F_{1,90} = 2.6$ ($p = .11$)</td>
</tr>
<tr>
<td></td>
<td>Reasoning</td>
<td>$F_{1,90} = 0.0$ ($p = .98$)</td>
<td>$F_{1,90} = 5.1$ ($p = .03$)</td>
</tr>
<tr>
<td>Multivariate Fs</td>
<td>Memory</td>
<td>$F_{5,87} = 0.6$ ($p = .69$)</td>
<td>$F_{5,87} = 3.2$ ($p = .01$)</td>
</tr>
<tr>
<td>(Follow-Ups)</td>
<td>Attention</td>
<td>$F_{1,91} = 0.2$ ($p = .67$)</td>
<td>$F_{1,91} = 8.0$ ($p = .01$)</td>
</tr>
<tr>
<td>Clinician Rating</td>
<td>Problem Solving</td>
<td>$F_{1,91} = 0.3$ ($p = .57$)</td>
<td>$F_{1,91} = 13.1$ ($p = .00$)</td>
</tr>
<tr>
<td></td>
<td>Reasoning</td>
<td>$F_{1,91} = 0.1$ ($p = .70$)</td>
<td>$F_{1,91} = 5.5$ ($p = .02$)</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>Disposition - Goals Met (Yes or No)</td>
<td>$\chi^2_{1} = 2.4$ ($p = .12$)</td>
<td>---</td>
</tr>
</tbody>
</table>

*Note. Test statistics with a $p$-value less than or equal to .05 are bolded and no attempt is made to control $\alpha$ experiment wide, therefore, the tests shown are as “liberal” as possible.*
Cognitive deficits tended to be greater among persons who were older, had less stable housing, lower educational attainment, membership in a minority group (principally African American), and a history of incarceration. Moreover, persons reporting a physical disability and/or traumatic brain injury also were more likely to have greater cognitive impairments. Some findings in this study also suggest that having a physical disability is more highly correlated with cognitive impairments than having mental illness. Recent literature has alluded to “multiple co-morbidity” as being prevalent for the most needy persons in substance use disorder treatment and the current study appears to substantiate this (Shavelson, 2001).

Utilizing data from predictor variables in Table 6, the factors that correlate most highly with cognitive impairment include lower education attainment level and a reported physical disability ($p = .000$). These are followed by race (minority) and high school drop out status ($p = .001$). Alcohol use during lifetime, severity of mental illness, and health transitions in the last year form the third tier of correlates ($p = .01$), followed by a fourth tier of “live in own place”, experience a brain injury, months and days in jail, employment status, and scores on the Brief Psychiatric Rating ($p = .03$). Persons who experience multiple correlates from the above factors (likely many persons in substance abuse treatment) may benefit from screenings for cognitive impairment prior to treatment planning. Traumatic brain injuries, sometimes not reported or diagnosed, may be a particularly common occurrence for persons in chemical dependency treatment (Acquilano, Li, Ford, & Moore, 1995).

Recent research on cognitive impairments associated with persons who experience substance dependence clearly indicate that neuropathology from substance abuse contributes to diminished cognitive functioning for many treatment clients (Heffernan, Moss, & Ling., 2002; Bates, Bowden, & Barry, 2002; Tracy & Bates, 1999). The current study suggests this as well, given that cognitive functioning levels between the intervention and control groups tended to show similar degrees of change from pre- to post-testing. In the current study, illicit drug use was associated with greater levels of cognitive impairment than was alcohol use, however, both alcohol and illicit drug use appeared to impact cognitive functioning.

Cognitive Measures Require Norming for Special Populations. A detailed review of the instrument battery and the associated norms suggested that one potential benefit of this study would be to publish normative data on study participants. It can be argued that substance dependence treatment agencies in the U.S. serve comparable populations of persons on a regular basis, although it is not common to identify functional levels of cognitive impairment at the time of treatment intake. For that reason, the test data available through this study are being analyzed in order to delineate instrument norms for the subject population. These results will be disseminated through conferences and papers, as well as inclusion in the SARDI web site (www.med.wright.edu/citar/sardi). Increasingly, treatment providers are embracing an integrated model of services provision, and more comprehensive functional assessments are becoming more commonplace.

Cognitive Compensation Skills Training. One of the most challenging aspects of this study was to operationalize the concept of “cognitive compensation skills”. These are by definition “compensatory” skills used to overcome cognitive deficits, or to “recompense for something” (Webster’s Unabridged Dictionary, 1994). As such, cognitive compensation skills may or may not be reflected in change scores on traditional tests of cognitive functioning. There is debate in the literature about how and where to “recompense” (Wilson, 2000). The approaches range from concentrating on cognitive areas such as unilateral attention, memory, metamemory, executive functions, verbal skill and processing speed. Other approaches focus on techniques for improving performance such as rehearsal strategies, talking books, memory books, over-learning, computer enhanced learning and electronic personal desk assistants. Yet other approaches tend to be more environmentally focused such as environmental manipulation, posting
cues and signs in the treatment setting or introducing other environmental cues (Bates et al., 2002; Wilson, 2000). Moreover, the list of cognitive instruments utilized in related studies are quite diverse and extensive, as alluded to in the literature review in the first section of this report.

Considering that the present study was a pilot project in a new and nearly untested area, there were several challenges to and limitations in the design and execution of the CCST. One challenge was in the measurement of “cognitive compensation skills”, as mentioned above. Although cognitive functioning levels were assessed, these may not be the most direct means for measuring acquisition of compensation skills. In future studies, the investigators plan to initiate a series of “real time” tests of compensation skills, where subjects will be required to choose from a group of compensation strategies and then apply one to a common scenario. Measurement will then be based on 1) knowledge of multiple compensation strategies, 2) ability to choose an appropriate strategy, and 3) demonstration of the strategy in context. Improvement in performance also will be quantified. In keeping with the primary modalities utilized in mental health and chemical dependency treatment settings, the majority of compensation skills will address auditory learning processes.

A particular contribution of the current study was the documentation of the pervasiveness of cognitive impairments among clients who experience mental illness or other disability conditions across two different chemical dependency treatment sites. Although additional study is necessary in order to more fully understand the most common etiologies for cognitive impairments, it is clear that a substantial portion of persons with dual diagnoses within the chemical dependency treatment system experience depressed levels of cognition that can very likely impede their progress to stabilization and recovery. Chemical dependency treatment providers should include measures of cognitive functioning as routine components of their intake assessment battery and the results from these instruments should be considered when formulating client treatment plans. Moreover, subjects in this study, irrespective of their assignment to experimental or control conditions, demonstrated cognitive improvements over their first two to three months of enrollment in the program. Interestingly, these effects appeared to hold for persons in a residential treatment program, as well as for those in an outpatient program. Self-reported substance use was far more common at follow up for persons in the outpatient program, therefore simply being abstinent from substance use may not be directly related to the observed changes.

Research is needed to better understand the etiologies of cognitive impairments in persons who are dual diagnosed, both related to aspects of mental illness and the influence of alcohol or other drug use. For example, research has shown that both mental illness and substance dependence can independently lead to significant cognitive dysfunctions, but the combination of these factors may increase cognitive impairments multiplicatively, not additively.

Given the potential clinical importance in determining levels of cognitive functioning among clients in substance abuse treatment settings, more research is needed on instruments and their related clinical population norms, particularly those applicable to dual diagnosed populations. At the present time there is substantial debate surrounding the conceptualization of critical cognitive skills and in the operational definition of “cognitive compensation skills”. Additional work in these areas would further illuminate rehabilitation strategies for clients with cognitive impairments. Such work could have far-reaching impacts if viewed from a larger continuum of cognitive impairments, from women being served by TANF or job placement services, to juvenile justice settings, to populations being served in America’s criminal justice system.
REFERENCES


**Other Publications of the Research To Date**


**Paper Presentations of the Research to Date**


The Mahoning County Mental Health Board and the Trumbull County Board of Alcohol, Drug and Mental Health received a grant from the Ohio Department of Mental Health to effect a system-wide change in embracing the Recovery Model as a best practice model of service delivery. They believed implementing a system-wide change to the Recovery Model would involve primary consumers, secondary consumers, clinicians/therapists and board members at the county and agency levels.

The overarching goal of the two-county project was to empower consumers of mental health services to accept their illness, take control of the management of their illness, and become active members of their individual communities. Specific goals of the overall project focused on ten areas, including employment, empowerment, stigma, peer support, family support, community involvement, access to resources, education, clinical roles and relationships, and the development of a website.

In order to accomplish the project goals, the boards created a steering committee to oversee and offer feedback to the members on implementation and to develop the training curriculum and community education. The boards also hired a staff coordinator to oversee the Recovery Model activities in both counties and to work with individual staff in the agencies and the representative boards. The coordinator chaired the steering committee, helped facilitate the activities of the committee, and targeted consumers to begin education on the Recovery Model.

A consumer-driven self-help course was offered for consumers in both counties through the B.R.I.D.G.E.S. (Building Recovery of Individual Dreams and Goals through Education and Support) Program. This 10- to 15-week course was taught by consumers of mental health services to consumers of mental health services in a friendly supportive atmosphere. Program topics included: Emotional Stages of Recovery, Thought and Mood Disorders, Anxiety Disorders, Dual Diagnosis Recovery, Building Support, Biology and Medication, Community Mental Health Services, Recovery and Working, Tools for Recovery, Religion and Spirituality and Advocacy.

Summary of Results Related to the Project Goals

1. Employment: to increase the number of consumers who were actively employed. This was not accomplished; the number of consumers employed did not increase. According to the coordinator, there are few employment opportunities in the two-county area.

2. Empowerment: to empower consumers to take an active role in the Recovery Model. This was accomplished somewhat as indicated by the increased number of consumers participating in peer support groups.

3. Stigma: to develop and implement a comprehensive community-wide plan to reduce current stereotypes concerning mental illness. A community-wide plan was implemented and ten consumers were trained to present community-wide sessions regarding stigma; however, few sessions were actually conducted.
4. Peer Support: to develop a consumer support group in each county to offer an appropriate social network to consumers. This was accomplished through the development of the BRIDGES classes that were offered in each county at four different sites. Attendance and participation gradually improved over the course of the project. Initial classes had poor attendance, with as little as ten percent of the consumers completing the course and graduating. By 2003, this had improved and approximately 40 percent of consumers attending completed the courses and graduated.

5. Family Support: to increase family member involvement as a positive social network for consumers. According to the coordinators interviewed, family involvement did not increase or improve.

6. Community Involvement: to increase the number of appropriate social networks available to consumers. There was an increase in the number who attended and completed peer support groups, but no increase occurred in the number of groups available.

7. Access to Resources: to develop and implement cross-system training to introduce the Recovery Model. This training occurred during the second year of the grant on a community level and was beginning to be implemented within the agencies during the third year. It was decided also in year two that the consumers would train the case managers and this was recommended by the Steering Committee and the professional staff of the agencies.

8. Education: to better educate consumers on their illness and the possible benefits of the Recovery Process. Additional training was offered through the boards for consumers and the greatest impact was through the BRIDGES courses.

9. Clinical Roles and Relationships: key staff at mental health contract agencies received training in the Recovery Model in their respective agencies. Yearly training sessions were offered for mental health professionals in each county.

10. Web site: to develop a Web site to highlight and update the implementation of the Recovery Program. This was developed and managed by the Help Hotline Crisis Center in Mahoning County.

**Research Hypothesis and Research Questions**

The objective of this research was to investigate multiple factors influencing the recovery process of individuals in Trumbull and Mahoning Counties. The research design specifically addressed the project goals related to empowerment of consumers, the impact of peer and family support, and clinical roles and relationships. The major hypothesis of the research was: consumers of mental health services in Mahoning and Trumbull Counties will demonstrate an increased level of adjustment to their disability, increased personal competency and independence, and increased awareness of their illness, treatment, and individual responsibility for recovery as a result of the implementation of the Recovery Model.

The following research questions were developed and will be discussed in the research design section.

1. Will the development of the planning process of the Recovery Model increase the consumers’ and secondary family members’ involvement and awareness?
2. Will the development of the planning process increase consumer involvement in peer support groups?
3. Will mental health agency boards of directors educated in the Recovery Model have increased clinical understanding of treatment within a mental health Recovery Model? Will they identify partnership with the consumer as important?
4. Will clinicians indicate that consumers educated in the Recovery Model have an increased level of functioning?
5. Will consumers educated in the Recovery Model have improved adjustment to their disability?
6. Will consumers involved in consumer support groups have increased self-esteem, improved self-sufficiency, increased awareness of their illness, treatment, and individual responsibility for recovery?

**Measures**

An interview packet was developed for use in interviewing consumers and their families. It included the following instruments: (1) the Recovery Attitudes Questionnaire (Borkin et al., in press) to develop baseline information and compare participants’ attitudes about recovery and the recovery process; (2) the Personal Vision of Recovery Questionnaire (PVRQ) to compare consumers’ activities to promote their own recovery (Ensfield, Steffen, Borkin & Schafer, 1999) and to reflect family members’ beliefs about consumers’ recovery; (3) the Consumers’ Assessment of Psychiatric Symptoms (CoAPS) to compare consumers’ reported psychiatric symptoms (Krzton, Steffen, & Borkin, in review) and (4) the Ohio Mental Health Consumer Outcomes System Adult Consumer Form A (Ohio Department of Mental Health, 2000) to assess consumers’ outcomes.

The 16-item Recovery Attitudes Questionnaire (RAQ-16) was given to all groups participating and to consumers, family members, clinicians, and board members to compare differing attitudes.

**Research Design**

The design called for interviewing 110 consumers randomly selected from the mental health providers in each county over a three-year period. Baseline data from the consumer interviews were collected in the summer of 2000. The design also called for 50 percent of consumers’ family members being interviewed using the RAQ-16 and the Ohio Mental Health Consumer Outcomes System Adult Consumer Form A.

Board members, consumers and family members were surveyed three times between the fall of 2000 and the fall of 2002, to determine if they increased their knowledge and understanding of the Recovery Model.

The education and training sessions for clinicians were conducted in January and February of 2002. The baseline data for clinicians was completed in the summer of 2001. Clinicians were surveyed using the Recovery Attitudes Questionnaire, an Assessment of Clients questionnaire, and a staff practices questionnaire, along with four open-ended questions about their familiarity with the Recovery Model. The expected outcome for clinicians was to raise their level of knowledge and acceptance of the Recovery Model.

**Data Analysis**

A pre- and post-test design was used to examine the educational independent variable and compare group overall differences using within-group t-tests to determine statistical significance for all the survey instruments. Data from the consumers who participated in three interviews was analyzed using a repeated measures 2 (pre-training vs. post-training) x 3 (Time 1 vs. Time 2 vs. Time 3) Analysis of Variance.
To determine degree of change among clinicians as a result of the Recovery Workshop Training, paired $t$-tests were conducted comparing the mean scores on the measures completed by all participants (Recovery Attitudes Questionnaire, Assessment of Clients Scale, and Assessment of Staff Practices Scale).

**Results Related to the Research Questions**

1. **Will the development of the planning process of the Recovery Model increase the consumers’ and secondary family members’ involvement and awareness?**

   According to the boards and the groups formed, the development of the planning process of the Recovery Model increased consumers’ involvement and awareness for those who participated in the support groups. There was no indication of increased secondary family members’ involvement and awareness on a county-wide basis.

2. **Will the development of the planning process increase consumer involvement in peer support groups?**

   As indicated previously, there was increased consumer involvement in peer support groups, with both attendance and graduation rated increasing over the course of the three-year project.

3. **Will mental health agency Boards of Directors educated in the Recovery Model have increased clinical understanding of treatment within a mental health Recovery Model? Will they identify partnership with the consumer as important?**

   The RAQ 16 indicated only marginally significant differences between the Mahoning County board members’ and the Trumbull County board members’ responses. Looking across the 16 items on the RAQ, and the total of these 16 items, for the pre-test data there was only one marginally significant difference (item 7 at $p = .037$). Thus, the data from both counties was combined for subsequent analyses. Differences from the pre-test to post-tests for the RAQ indicated a normal distribution. Respondents from each county were as likely to move up the scale as down the scale from pre- to post-testing, with the most common response being no change. As the above would suggest, there was very little difference between pre- and post-test means, and none of the paired $t$-tests reached $t$ values of 0.5, indicating that board members did not achieve increased clinical understanding nor did they identify partnership with consumers as important.

4. **Will clinicians indicate that consumers educated in the Recovery Model have an increased level of functioning?**

   If the education of the clinicians had the desired impacts of increasing acceptance of the Recovery Model and producing associated positive changes among the clients, then scores on the clinician surveys should show modest gains from the pre-test to the post-test. Differences from the pre-test to the post-tests for the clinicians surveyed indicated a normal distribution--clinicians from each county were as likely to move up the scale as down the scale from pre- to post-testing, with the most common response being no change. Among other reasons, this may reflect the weakness of the training intervention, too long of an interval between the training sessions, or issues related to administration and timing of the surveys.

5. **Will consumers educated in the Recovery Model have improved adjustment to their disability?**

6. **Will consumers involved in the consumer support groups have increased self-esteem, improved self-sufficiency, increased awareness of their illness, treatment, and individual responsibility for recovery?**
The above questions were addressed by analyzing the four surveys used in the study; since consumers involved in the consumer support groups were not identified separately from those not participating, question 6 was applied to all consumers participating in the study.

**Analysis of RAQ-16.** If the intervention had the desired impact of increasing acceptance of the Recovery Model and producing associated positive emotional changes among the clients, then scores on the RAQ should show modest gains from the pre-test to the post-test. Running paired t-tests on the total RAQ, comparing pre- to post-test scores, pre- to follow-up scores, and post- to follow-up scores, produced no significant results. In fact, means for the three conditions were essentially the same. This is in contrast to the modest training effect cited by Bullock (2000). The current failure to demonstrate an effect may reflect the weakness of the intervention, issues related to administration of the RAQ, or the nature of the RAQ. For example, the Bullock study, the RAQ 21 was used and analyses were based on total RAQ 21 scores (e.g., 5-point scale on 21 items yields scores of 21 to 105). In this study, the RAQ 16 was employed. Further, a factor analysis of pre-test data suggests a factor structure different than that found by Borkin, one of the authors of the RAQ.

Of more interest are the item-by-item changes from pre- to post-test. If the intervention had the expected impact, paired t-tests for most items should show significance. Looking at Trumbull client data, Mahoning client data, and client data from the two counties combined, there are only a few comparisons that reach significance. Given the number of possible comparisons, these few are probably random events. An examination of the changes in scores from pre- to post-tests illustrates why significance was not observed. If a difference score is computed for each item (i.e., pre-test score, minus post-test score), and the difference scores are displayed in bar charts, results like those below are obtained. Typically, a rather normal distribution is found, with about half of the clients maintaining their pre-test scores, 15 percent to 20 percent moving one score up or down, and a handful moving more than one score up or down. Averaged across all items, 49 percent of clients did not change their scores; 20 percent moved one down, and 14 percent moved one up.

**Analysis of the PVRQ Data.** A factor analysis of the current PVRQ data for pre-test scores for all consumers did not produce a meaningful structure. Seven factors were found, accounting for 65 percent of the variance, but the factors extracted do not readily appear to have meaning. The difference scores between the pre- and post-tests for the PVRQ follow the pattern for the RAQ, with around 50 percent of the clients not changing their scores, and 15 percent to 20 percent moving either one score up or one score down. Of 24 paired t-tests comparing pre- and post-test scores, only one was significant, and that difference was only significant with \( p = .048 \). Thus, it again appears that the data do not support the hypothesis.

Perhaps a better understanding of the RAQ and PVRQ results can be obtained by looking at a cross tabulation of pre- and post-test scores for one item. For the first item on the PVRQ, 122 clients (Mahoning and Trumbull combined) have both pre- and post-test scores. Of the 122, 54 responded with “Agree” (score of 4) to Item 1 (44%). The major hypothesis of the research would suggest that there should be an upward shift in scores for these 54 people. In fact, 12 moved up, and seven moved down. Among those who were scored as a 1, 2 or 3 on the pre-test, 15 moved up and only two moved down. Among those who scored a 5 on the pre-test, 46 scored a 5 on the pre-test, 24 moved up and only two moved down. Among those who could move either up or down, 26 moved up and nine moved down, which would seem to support the hypothesis.

Individuals who scored a 5 on the pre-test cannot move up. Those who scored a 1 can not move down. Among those who could move either up or down, 26 moved up and nine moved down, which would seem to support the hypothesis.

However, 24 of the 46 who were scored a 5 on the pre-test moved down on the post-test. Does this reflect movement in opposition to the hypothesis? Does this merely reflect regression toward the mean? Does this reflect a “less encouraging” experimenter? It is probably more parsimonious to suggest...
that alternatives two and three were operative, in combination with no impact of the intervention, than to invoke alternative one.

Analysis of data from the 24-item PVRQ provides outcomes comparable to the outcomes of the analysis of RAQ data, and fails to support the hypothesis of the current study. The means for the PVRQ total scores for pre-tests, post-tests and follow-up testing were 90.4, 92.1 and 91.7, respectively, and were not significantly different from one another.

Analysis of the CoAPS Data. The Consumers’ Assessment of Psychiatric Symptoms (CoAPS) is an 18-item scale that measures psychological health. The higher the score on the CoAPS, the less psychologically healthy the respondent is (i.e., the greater his/her self report of psychiatric symptoms). In the present study, it is assumed that exposure of staff to the Recovery Model will result in changes in the delivery of services to consumers such that the consumers’ CoAPS scores would decrease. As predicted, the chart below indicates that for the CoAPS total scores, there was a significant decrease in symptoms from pre-test to post-test. Further, as indicated in the table, this decrease was maintained at follow-up testing, providing additional support for the hypothesized impact of the county-wide intervention.

Table 1 displays the combined county scores utilizing the paired t-test results from the CoAPS data. As shown, there was a significant change from pre-test to post-test, and from pre-test to follow-up for the CoAPS total scores. Thus, the improvement in symptoms was maintained in the follow-up.

| Table 1. Paired t-test Results for CoAPS Scores for Consumers – Two Counties Combined |
|---------------------------------|---------|--------|--------|----------------|
| Pair 1                          | Mean    | N      | t Value| Probability     |
| Pre-Test                        | 45.20   | 120    | 4.29   | <.001           |
| Post-Test                       | 39.43   | 120    |        |                 |
| Pair 2                          | Post-Test | 39.65 | 116    | .21             | NS               |
| Follow-Up                       | 39.41   | 116    |        |                 |
| Pair 3                          | Pre-Test | 44.61 | 114    | 3.74            | <.001            |
| Follow-Up                       | 39.13   | 114    |        |                 |

While paired t-tests comparing total CoAPS pre-test scores to post-test and follow-up scores support the hypothesized impact of the intervention, an item-by-item analysis of CoAPS scores indicates that the most frequent outcome from pre-test to post-test and follow-up is for no change in the consumer’s scores. The bar graph shown in Figure 1 was produced by subtracting post-test scores from pre-test scores. Thus, a score of zero indicates no change in the consumer’s response. Across items, typically 30 percent to 40 percent of the consumers did not change. Of those who did change, a sufficient number changed in the hypothesized direction to produce significant paired t-tests.
Figure 1. Changes in CoAPS scores.

Because there was a significant difference between pre-test and post-test scores, a one-way ANOVA comparing total scores from the three time periods was also used to reinforce results \( (F = 13.98, \text{df} = 1/113, p < .001) \). There was no difference between post-test and follow-up scores, but the differences between both post-test and follow-up scores and pre-test scores were significant beyond the level of \( p = .001 \).

Table 2. Means of Total of CoAPS Items by Testing Period

<table>
<thead>
<tr>
<th>Testing Period</th>
<th>Mean of Total CoAPS</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test</td>
<td>44.589</td>
<td>1.522</td>
<td>41.574</td>
<td>47.605</td>
</tr>
<tr>
<td>Post-Test</td>
<td>39.258</td>
<td>1.542</td>
<td>36.202</td>
<td>42.314</td>
</tr>
<tr>
<td>Follow-Up</td>
<td>39.240</td>
<td>1.536</td>
<td>36.198</td>
<td>42.283</td>
</tr>
</tbody>
</table>

ANOVA Pairwise Comparisons

<table>
<thead>
<tr>
<th>Mean Difference</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test Total Score v. Post-Test Total Score</td>
<td>5.332</td>
<td>1.374</td>
</tr>
<tr>
<td>Pre-test Total Score v. Follow-Up Total Score</td>
<td>5.349</td>
<td>1.471</td>
</tr>
<tr>
<td>Post-Test Total Score v. Follow-Up Total Score</td>
<td>0.017</td>
<td>1.171</td>
</tr>
</tbody>
</table>

The results in Table 2 are consistent with the hypothesis of the study. Combined with other results, one must question if this support for the hypothesis results from a more powerful instrument, from differing impact of the experimenters, or from other extraneous variables.
Analysis of the Ohio Outcomes System Data. In the late 1990s the Ohio Mental Health Consumer Outcomes System instruments were created to assess the following four categories of information:

- Clinical status including the level of symptom distress;
- Functional status, the ability to manage the basic tasks of daily living;
- Quality of life, the consumer’s perspective on his mental health status and its impact on his capacity to fully experience and enjoy life, and
- Safety and health including consumers’ desire to not want to harm themselves or others; this was of particular importance to consumer and family members of the task force.

Items 1 - 12 basically assess life satisfaction or Quality of Life (QOL) issues. Items 17 - 31 assess symptom distress. Paired t-tests for the QOL items comparing pre-test with post-test scores reveal three significant results (items 2, 8 and 10; \( p = .01, .004, .000 \) respectively). Combining the QOL items into a single score produced a significant paired t-test result in comparing pre-test and post-test scores (\( p = .004 \)), and in comparing pre-test with follow-up scores (\( p = .008 \)). Changes are in the direction of increased life satisfaction. (See Table 3).

Building scores for each of the above factors led to two significant changes from pre-test to post-test scores. For factor 1 (money, work, health), and for factor 2 (housing, safety), there was an increase in satisfaction. For factor 3 (freedom & family), there was no significant change.

Table 3. Paired t-Test Results for Ohio Outcomes Survey Quality of Life for Consumers--Two Counties Combined

<table>
<thead>
<tr>
<th>Pair</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>N</td>
<td>t Value</td>
<td>Probability</td>
<td></td>
</tr>
<tr>
<td>Pair 1</td>
<td>Pre-Test</td>
<td>37.56</td>
<td>111</td>
<td>2.94</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>39.68</td>
<td>111</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair 2</td>
<td>Post-Test</td>
<td>39.88</td>
<td>105</td>
<td>.17</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Follow-Up</td>
<td>39.78</td>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair 3</td>
<td>Pre-Test</td>
<td>37.79</td>
<td>105</td>
<td>2.69</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td>Follow-Up</td>
<td>39.91</td>
<td>105</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In contrast to the above patterns, the statistically significant improvement in Symptom Distress of the Ohio Mental Health Outcomes Survey was not maintained in the follow-up data. While the pre-test to post-test shift was from 33.4 to 29.5, the mean follow-up score was between these two means, suggesting regression back to a higher level of symptom distress.

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Table 4. Paired \( t \)-Test Results for Ohio Outcomes Survey Symptom Distress for Consumers--Two Counties Combined

<table>
<thead>
<tr>
<th>Pair</th>
<th>Time</th>
<th>Mean</th>
<th>N</th>
<th>( t ) Value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre-Test</td>
<td>33.36</td>
<td>113</td>
<td>3.10</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>29.54</td>
<td>113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Post-Test</td>
<td>30.19</td>
<td>115</td>
<td>1.02</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Follow-Up</td>
<td>31.29</td>
<td>115</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Pre-Test</td>
<td>33.55</td>
<td>111</td>
<td>1.42</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Follow-Up</td>
<td>31.74</td>
<td>111</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Exact mean value depends on which scores are included in the analysis; not all consumers had scores for each time period.

Literature on the Ohio Outcomes Survey Adult Consumer A instrument notes that one of four factors assessed by this instrument is empowerment—the degree to which the individual feels a sense of overall fulfillment, purpose in life, hope for the future, and personal empowerment. A factor analysis of questions 34 to 61 of the Adult Consumer A instrument did not produce clear and unique factors, even with 95 iterations. However, a scale created by adding the scores on questions that conceptually relate to empowerment resulted in a significant paired \( t \)-test result comparing pre-test to post-test scores, with the change in the direction of a greater sense of empowerment. This increase in empowerment was maintained for follow-up scores. [Questions combined were 34, 35, 38, 39, 42, 45, 46, 47, 52, 55, 57, 58, 59 & 60.]

Table 5. Paired \( t \)-Test Results for Ohio Mental Health Survey Empowerment Items for Consumers--Two Counties Combined

<table>
<thead>
<tr>
<th>Pair</th>
<th>Time</th>
<th>Mean</th>
<th>N</th>
<th>( t ) Value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre-Test</td>
<td>41.47</td>
<td>113</td>
<td>2.74</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>43.70</td>
<td>113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Post-Test</td>
<td>43.66</td>
<td>116</td>
<td>.51</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Follow-Up</td>
<td>44.12</td>
<td>116</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Pre-Test</td>
<td>41.35</td>
<td>116</td>
<td>3.24</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>Follow-Up</td>
<td>43.93</td>
<td>116</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Males scored higher on Symptom Distress, but not significantly so. Likewise, gender did not impact significantly on any other set of scores from the Adult Consumer A instrument. There was no effect of county on symptom scores. For whatever reason, Mahoning clients scored higher (better) on the Quality of Life items, and on the subset of these items labeled Factor 1. They scored lower (worse) on “power”. In contrast to the above patterns, the improvement in symptom distress identified in items 17 through 31 of the Ohio Mental Health Outcomes Survey was not maintained in the follow-up data. While the pre-test to post-test shift was from 33.5 to 29.5, the mean for the follow up data was between these two means at 31.3. The empowerment scores for the follow-up show the pattern evidenced for CoAPS.
and Quality of Life--follow-up scores are significantly “improved” over pre-test scores, but not different from post-test scores, i.e., the effect of the intervention was maintained.

Summary

The focus of this research was to examine the impact of system-wide adoption of the Recovery Model and philosophy on the part of clinicians, consumers, families, and support groups, and within the broader community context. The major hypothesis of the research was: consumers of mental health services in Mahoning and Trumbull Counties will demonstrate an increased level of adjustment to their disability, increased personal competency and independence, and increased awareness of their illness, treatment, and individual responsibility for recovery as a result of the implementation of the Recovery Model.

While the Ohio Mental Health Adult Consumer A instrument and the CoAPS provided statistically significant support for the hypothesized impact of implementation of the Recovery Model, RAQ scores did not provide supporting statistics. The means for pre-test, post-test and follow-up RAQ scores were essentially identical (62.7, 62.7 and 63.1, respectively), resulting in no significant difference across conditions.

If the intervention had the desired impact of increasing acceptance of the Recovery Model and producing associated positive emotional changes among the clients, then scores on the RAQ should have demonstrated modest changes from the pre-test to the post-test. It should be noted that in a prior study by Bullock, changes in RAQ scores were in the predicted direction, but were only marginally significant in particular analyses. Among other reasons, this may reflect the weakness of the intervention, issues related to administration of the RAQ, or the nature of the RAQ.

Our ability to measure organizational and system wide change is hampered by the design of the study and by limited instruments. However, the results are troubling in that the attitudes of the staff and board members concerning Recovery did not change significantly, but the consumers demonstrated improvement in symptoms, empowerment, and quality of life. Does this lead to the conclusion that consumers’ acceptance of the situation and their assessment of their potential recovery is more powerful than therapist and community beliefs?

REFERENCES


The promotion of the concept of recovery in the mental health service delivery system has become a major objective of the Ohio Department of Mental Health, as demonstrated by their support of research on recovery. This current study built on this prior research (Roth, Crane-Ross, Hanna, Cusick & Doklovic 1998) as it evaluated the development and the implementation of a system-wide training and education project on the recovery and best practices model for the various constituent groups of the Lake County mental health system. This research also examined the impact of a model of partnership of consumers and members of the community (community partners) through a Leadership Class that had the responsibility for development of the education project.

With some of the research on recovery and best practices suggesting the importance of a lay support network for consumers (Johnson, 1998; Murnen & Smolak, 1998), it was proposed to build upon this research by evaluating further how a lay network of community volunteers who are educated about recovery can assist in the recovery efforts of consumers.

The research cited above has also indicated that there is a need for education on recovery by mental health providers, and by family members (Tessler, 1998) as well as other members of the mental health community. This study evaluated how education about recovery and best practices had an impact on some of the different constituent groups of the mental health community in Lake County, Ohio. A further objective was to evaluate how all these efforts impacted on the mental health system itself with regard to policies that relate to recovery efforts.

**Research Questions and Hypotheses**

Research Question 1:

Will the creation of a Leadership Class comprised of consumers and non-consumers promote the process of recovery?

H1: Consumers who participate in a mentoring and education program focused on recovery (Leadership Class) will have an increased level of self-esteem.

H2: Consumers who participate in a mentoring and education program focused on recovery (Leadership Class) will have an increased sense of personal empowerment.

H3: Consumers who participate in a mentoring and education program focused on recovery (Leadership Class) will have an increased participation in treatment and the treatment planning process.

H4: Consumers who participate in a mentoring and education program focused on recovery (Leadership Class) will have decreased rates of hospitalization.

H5: Consumers who participate in a mentoring and education program focused on recovery (Leadership Class) will have increased reciprocal peer support.

H6: Consumers who participate in a mentoring and education program focused on recovery...
(Leadership Class) will have improved support relationships.

Research Question 2:

Will the development and implementation of an education program (with the participation of consumers) to help different constituencies in the community (consumers, direct-care workers, family members, community members, policy makers, and administrators) understand the concept and process of recovery (a) increase efforts towards recovery, and (b) change the mental health system in its focus on recovery?

H7: Direct-care workers who are educated in mental health recovery principles will have a greater awareness of recovery than those who are not so educated.

H8: Family members who are educated in mental health recovery principles will have a greater awareness of recovery than those who are not so educated.

H9: Community members who participate in a mentoring and education program focused on recovery (Leadership Class) will have an increased awareness of mental health recovery.

H10: Consumers, family members, direct-care workers, policy makers and administrators (both clinical and non-clinical) who are educated about mental health recovery and best practices will indicate a greater awareness of mental health recovery.

H11: Education about recovery principles leads to the re-examination of policies and procedures in the mental health system with regard to the integration of these principles within the system.

Thus, these research questions and objectives focused on personal recovery outcomes (related to the consumer), clinical recovery outcomes (related to the service system and its providers), recovery support outcomes (related to the consumer’s support) and systems outcomes (related to the mental health system.)

Study Design

This study design utilized both quantitative methods of exploratory non-experimental surveys, and quantitative methods of focus groups and ethno-graphic interviews in a staged approach. All participants were residents living or working in Lake County, Ohio. The various groups that were studied consisted of consumers, family members, direct-care workers, policy makers, administrators and the mental health system itself.

The first phase of the research focused on the Leadership Class and its participants, consisting of mental health consumers and community volunteers. At the beginning and at the end of the Leadership Class both groups were given a survey with questions about attitudes towards recovery (RAQ: Steffen & Borkin, 1995) and questions about reciprocal support. Mental health consumers were also asked questions pertaining to self-esteem, personal empowerment (Rogers et al., 1997), social support, participation in treatment (Ohio Department of Mental Health, 2000) and personal attitudes towards recovery (PVRQ: Ensfield, Steffen, Schaefer, & Borkin, 1998). At the end of the Leadership Class, a focus group was conducted to investigate the perceptions of the consumers and the community volunteers regarding the impact of their participation in the Recovery Project.

In the second phase of the research, survey questionnaires and focus groups were utilized for the second Leadership Class as they had been used for the first Leadership Class as discussed above. During this phase a brief survey questionnaire on recovery attitudes (RAQ; Steffen & Borkin, 1995) was also utilized with a group of consumers who had participated in a 15-week introduction to recovery by the Recovery Project Coordinator. Some of the education consisted of information gathered by the Leadership Class about recovery concepts. These consumers were given the survey at the beginning and
at the end of the sessions about recovery education. The third phase of the research utilized the qualitative methods of individual interviews and focus groups to evaluate the perceptions of consumers, family caregivers, providers and administrators about the impact of the Recovery Project on the mental health system in Lake County.

**Sample**

All research participants were adults over the age of 18 who were living or working in Lake County, Ohio. Different areas of the research, had participants who met different criteria.

In the first phase of the research, all participants were either community volunteers or mental health consumers who were members of the first Leadership Class. All volunteers were recruited individually either through personal contact from someone associated with the Recovery Project, for example the Project Coordinator, or they were invited to a recruitment event. All consumers were recruited through a flyer that was distributed to the three major mental health agencies in the community. Two of the agencies then did a bulk mailing to all consumers associated with their respective agencies. Those consumers who were interested in participation in the Recovery Project Leadership Class had to complete an application form and were given an in-person interview by the Project Coordinator and members of the Recovery Advisory Board. All participants were informed that their participation in the Leadership Class meant that they were also accepting to be participants in the research. For the second phase of the research the participants in the second Leadership Class met the same criteria and were recruited in a similar fashion to the first Leadership Class as described above.

The participants in the 15-week introduction to recovery education group were given a brief survey. They were all consumers in a treatment program in a mental health agency. They attended the education program as part of their regular day treatment schedule and gave their consent to participate in the research.

In the third phase of the research, interviews were held with six individuals; these were two administrators, two consumers and two community volunteers. The two administrators were heads of the two major mental health agencies in the community. The four other respondents who were interviewed were members of the second Leadership Class, and these individuals volunteered for individual interviews. The two respondents who were community volunteers had previously worked in the mental health system, and they were also family caregivers of persons with mental illness.

Five focus groups were conducted. Two focus groups were held with the consumers. Four direct care providers comprised the third focus group. A fourth focus group was held with seven direct care providers, one administrator and one mental health consumer. The fifth focus group included five members of a support group for family caregivers.

**Sample Characteristics**

To obtain the study sample for the purposes of data analysis, the mental health consumers of the first Leadership Class who completed both the pre-test at the beginning of the Leadership Class and the post-test at the end of the Leadership Class were combined with the mental health consumers in the second Leadership Class who had also completed both the pre-test and the post-test. A few of the consumers in the first Leadership Class continued with the second Leadership Class either in their consumer role or in the new role of community partner. These respondents were only counted once for the sample.
In the first Leadership Class (LC1) there was a pre-test sample of 20 consumers and 16 community partners, and a post-test sample of 14 consumers and eight community partners. In the second Leadership Class (LC2) there was a pre-test sample of 18 consumers, two of whom had been in LC1, and 12 community partners, two of whom had been in LC1 as community partners, and five of whom had been in LC1 as consumers. The post-test sample of consumers in LC2 was 10 consumers and six community partners. Thus, the final sample was comprised of $n = 22$ for consumers and $n = 10$ for community partners.

The consumer sample comprised 20 females (90%) and two males (10%). Most participants were middle-aged with 58 percent (13) between the ages of 30 to 50, 26 percent (6) above the age of 50, and 13 percent (3) between the ages of 20 and 30. This was also a well-educated group of consumers, with only one person having less than a high school degree, and over two-thirds (15) having some college or post-high school education, either college courses, college degree or business or technical school. No one in this sample was working full-time. Over one quarter (27% or 6) of the sample were working part-time; about one-third (36% or 8) were volunteering and 13 percent (or three) were students.

All community volunteers (partners) who completed the first two nine-month Leadership Classes in 2001 and in 2002 comprised the sample for phase one of the research.

Regarding the 10 community partners, 70 percent were female and 30 percent were male, with ages ranging from 30 to 74. All were Caucasian. The community partners were also a well-educated group with 20 percent having some college, 60 percent with a college degree, and 10 percent with graduate or professional training. With regard to employment, 50 percent of the community partners were employed full-time, 20 percent part-time and only 30 percent were not employed; four were in the business field, two had worked in the mental health field, one was in the medical field and one was a teacher. At least four of the community partners were family caregivers of persons with mental illness, and one community partner had been a policymaker.

**Instruments**

This research builds on the Ohio Mental Health Outcomes System instruments (Ohio Department of Mental Health, 2000) and upon the previous research on recovery conducted under the sponsorship of the Ohio Department of Mental Health (Roth, et al., 1998). The Outcomes System instruments include scales on self-esteem and personal empowerment that were utilized for this study. In addition there are some questions on the Outcomes instruments on support that were included, and some additional questions on support were added. A scale for participation in treatment was adapted from scales from the Longitudinal Study of Mental Health Services and Consumer Outcomes (Roth et al., 1998). In order to measure awareness of recovery, the Recovery Attitudes Questionnaire, 21 items (Steffen & Borkin, 1995) was included. The Personal Vision of Recovery Questionnaire (Ensfield, Steffen & Borkin, 1998) was also included in order to assess the consumers in the Leadership Class in their growth in recovery. A Reciprocal Support Scale was also developed by the researchers for use in this research (Silver, Bricker, Pesta, and Pugh, 2002).

For all members of both Leadership Class 1 and Leadership Class 2, pre-test questionnaires were given at the beginning of their experience in the Leadership Class, and a post-test was given at the end of nine months. For the consumer members the questionnaire included the scales on self-esteem, personal empowerment, support, participation in treatment (Ohio Department of Mental Health, 2000) and two recovery scales (RAQ: Steffen & Borkin, 1995; PVRQ: Ensfield et al. 1998). For the non-consumer members (community partners) the questionnaire included the Recovery Attitudes Questionnaire, 21 items (Steffen & Borkin, 1995). The scale on reciprocal support (Silver et al., 2002) was first pilot tested and then given to the consumers and community partners as a pre-test a few months after the initial pre-
test questionnaire to allow time for matching in groups to be organized.

Results

The results of the 11 hypotheses will be addressed under the categories of personal recovery outcomes, clinical recovery outcomes, recovery support outcomes and systems outcomes.

Personal Recovery Outcomes

The three variables that were evaluated with the 22 consumers of the Leadership Classes were self-esteem (H1), personal empowerment (H2), and increased awareness of mental health recovery (H10). Although 15 of the 22 participants had an increase in their scores on the empowerment scale (ODMH, 2000), from the pre-test to the post-test, the differences in the mean scores were not significant when analyzed through a one-tailed t-test. In addition, a similar test on the sub-scale of self-esteem also indicated lack of significance. The qualitative results of the focus groups indicated that participants reported a greater awareness of mental health recovery as a result of participation in the Leadership Class.

Clinical Recovery Outcomes

For this category of variables, the ones that were targeted in the research hypotheses were rates of hospitalization (H4), participation in treatment and the treatment planning process (H3) and a greater awareness in direct care workers of mental health recovery (H11).

In the pre-test 14 participants indicated no hospitalization in the previous nine months and eight reported that they had been hospitalized in the previous nine months ranging from one to 45 days. (Mean 4.59). On the post-test 20 participants indicated no hospitalizations in the previous nine months and only two reported being hospitalized during the previous nine months which corresponded to the study period and their participation in the Leadership Class. The hospitalizations were for six days and 14 days (mean = .91.) A one-tailed t-test at the p < .05 level indicated a trend toward significance (t = 1.62, df = 21).

Regarding treatment, it was expected that the participation in treatment would increase as a result of membership in Leadership Class. However, contrary to expectations, the mean score for participation in treatment decreased on the post-test (21.31, n = 22, SD = 6.77) as compared to the pre-test, (22.50, n = 22, SD = 4.48). This result was also reflected in the fact that 16 of the 22 participants saw their scores on the post-test decrease as compared to the pre-test. A one-tailed t-test at the p < .05 level indicated significance (t = 1.726, df = 21).

Recovery Support Outcomes

The variables that related to support were reciprocal peer support (H5), and support relationships (H6). Reciprocal peer support targeted the relationships that the consumers had with the other consumers and the community partners in the Leadership Class. Contrary to the expectation that reciprocal support would increase during the study period, when measured by the post-test as compared to the pre-test, the mean on the post-test (58.06) was lower than on the pre-test; however this was not statistically significant, and the number of respondents was too low to measure this variable (n = 18).

The variable of support relationships was evaluated through three different measures, one on friend support, one on family support and one on general support (Ohio Department of Mental Health, 2002). For the Family Support measures and the Friend Support measures the mean scores for the 22 consumers increased slightly on the post-test as compared to the pre-test; these were for Family Support 16.95 (SD = 4.66) for the pre-test and 17.95 (SD = 5.24) on the post-test, and for the Friends Support
18.95 (SD = 3.78) on the pre-test and 20.14 (SD = 3.64) on the post-test. For General Support the mean scores were about the same, 13.5 (SD = 3.64) on the pre-test and 13.73 (SD = 4.06) on the post-test. None of the differences were significant when t-tests were performed. It was noted when looking at individual scores that 19 of the 22 consumers had an increase in score on at least one of the three support measures from the pre-test to the post-test during the study period of the Leadership Class experience.

The research was unable to evaluate the awareness of mental health recovery for direct care workers (H7) or family members (H8) as these groups had been minimally involved in the Lake County Recovery Project.

**Systems Outcomes**

To evaluate the impact on the mental health system of the Lake County Recovery Project, a qualitative approach was utilized. This method used interviews and focus groups to answer whether education about recovery principles led to a re-examination of policies and procedures regarding the integration of recovery principles within the system.

The development of the Leadership Class had an impact on the consumers and community volunteers (community partners) who were part of this process in their understanding of recovery principles. Moreover, even after the time period of the research, the Leadership Class program has continued. The mental health consumers and community volunteers who were part of the Leadership Classes helped make this happen by advocating to the Lake County ADAMHS Board to continue funding the Recovery Project in spite of the November 2001 defeat of the Mental Health levy. The consumers attended a meeting of the Mental Health Services Committee and a meeting of the ADAMHS Board to advocate for continuance of the project.

Instead of the comprehensive education program to educate the different constituent members of the mental health system that had been planned, the consumers of the Leadership Class and the Recovery Project Coordinator developed a brochure (Lake County Alcohol, Drug Addiction, and Mental Health Services Board Recovery Project, 2002) that included an elaboration of the nine essential components of the recovery process (Townsend et al., 1999) and identification of two other components, physical health and spirituality. This brochure was distributed to the major mental health agencies in the community for consumers and providers. However, there are no data on the impact of this information upon the mental health system. On the other hand, the participants in the Leadership Classes, in the focus groups, and in the interviews stated that a comprehensive education program on the Recovery Process model was still required. They spoke to the importance of the integration of service planning with recovery principles, and the promotion of a sense of hope through recovery-oriented policies and procedures.

**Implications**

An education and mentoring program, focused on recovery that combines mental health consumers with community volunteers, shows promise as a service delivery model that can impact on recovery and decrease hospitalization rates for consumers. This model requires further research.

An approach that involves consumers in an education and mentoring program with community volunteers can be helpful in introducing consumers to the recovery model, but for system-wide change to occur there needs to be organizational commitment, system-wide knowledge and administrative leadership, a finding similar to that reported by Panzano and colleagues, (2003) about implementation of innovation in the mental health system.
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Panzano, P.C., Roth, D., Crane-Ross, D. & Seffrin, B. (2003, November). *The Innovation Diffusion and Adoption Research Project (IDARP)*. Paper presented at Research Results Briefing 2003, Columbus, OH.


Other Publications of the Research to Date

Presentations of the Research to Date


Chapter Two
Other Funding Sources
From 1989 to 1998, the number of adjudicated delinquency cases resulting in residential placement increased 37 percent to 163,000 cases. During this same period, the number of adjudicated delinquency cases resulting in formal probation increased 73 percent to 366,000 (Puzzanchera et al., 2001). These increases require us to not only address the specific behaviors that result in adjudication and sanction, but to understand the underlying causes for such behaviors. Although the prevalence of mental health problems among juvenile delinquents is not well documented (Huizinga & Jakob-Chien, 1998), it has been estimated that, of the youth who come into contact with the juvenile justice system each year, approximately 150,000 meet the diagnostic criteria for a mental disorder and 320,000 meet the criteria for an alcohol/substance abuse disorder (Cocozza, 1992).

In Ohio, a 1997 sampling of 111 males at Scioto Juvenile Correctional Center found that 26 percent were diagnosed with a mood disorder, 27 percent with PTSD, eight percent with severe ADHD, six percent with schizophrenia and six percent with other mental disorders. It should be noted that Scioto is an Ohio Department of Youth Services (ODYS) facility that houses youth with the most serious mental illnesses (Ohio Task Force on Mental Health Services to Juvenile Offenders, 1998).

Given the paucity of information available on the co-existence of delinquency and mental health problems, it is important to document the prevalence of these problems. Further, the provision of mental health services to this population is essential in order to address the problems that induce or exacerbate the antisocial behaviors. The Ohio Department of Mental Health’s Juvenile Offenders Project (JOP) was intended to begin to meet both of these needs. As a result, the goals for the evaluation were to:

- examine the processes used to identify and treat juvenile offenders with significant mental health needs;
- describe the participating youth;
- assess outcomes as a function of participation in treatment;
- assess youths’ follow-up status, and
- provide a qualitative analysis of focus group themes.

**Methodology**

Participants. The JOP represents a three-year effort to identify, describe, and provide mental health treatment to juvenile offenders with significant mental health needs. Three sites were selected to provide JOP services: Cuyahoga County, Lorain County, and a collaborative of southwest Ohio counties...
including Hamilton, Warren, Clermont, and Butler Counties. Although the sites implemented three different programs, each of these sites was to (1) secure treatment beds for offending mentally ill youth, (2) enhance the local continuum of care for this population, and (3) increase collaboration among key systems and agencies in the provision of culturally competent and gender specific services. Each site also developed its own youth selection criteria and procedures within the guidelines established under the Request for Proposals.

**Instruments.** Two formal instruments were used in the evaluation: the Short Form of the Ohio Youth Problem, Functioning, and Satisfaction Scales (OS) (Ogles, Melendez, Davis, & Lunnen, 1999) and the Youth Level of Service Inventory (LSI) (Simourd, Hodge, Andrews, & Leschied, 1994). Three additional data collection instruments were used: the Disposition Investigation Report (DIR); the Evaluation Checklist, and the Expanded Service Ticket. The latter two instruments were developed specifically for use in the current project.

**Procedure.** Each site identified youth who would be selected for the JOP based on information gathered from the youth’s initial assessment. The initial assessment generally took place at each county’s Juvenile Court and utilized the LSI, DIR, and OS, along with other additional site-specific assessments. Once the youth was referred into the JOP, they were placed in a residential treatment facility until they were recommended for release to a community treatment program. Treatment providers submitted monthly Expanded Service Tickets to identify each youth’s placement and treatment while in the program. In addition, data were collected from youth, providers and parents at six month/midyear and annually utilizing the Ohio Scales instrument to assess the youth’s change in problems and functioning over the length of the program. Focus groups were conducted midway through the project to identify program issues or concerns from participating treatment providers, mental health boards, judges, parents and juvenile court staff. Data was collected based on IRB approval by Kent State University.

**Data Analysis.** The majority of the analyses carried out in the evaluation were frequencies and descriptive information. The demographics of project youths included frequencies and descriptions of the youth who participated in the programs, the average number of months a youth typically remained in each program, diagnoses, types of medications, IQ, information from the LSI Risk Assessment, types of offenses committed by the youth, and the types of services the youth received within each program. Correlations were used to examine the relationships between intake and annual assessments and the types of treatment and services offered to the youth. Finally, to assess a youth’s change in problem or functioning (as reported by the youth, parent or worker Ohio Scales instrument), Hierarchical Linear Modeling (HLM) was used. HLM is the analytic technique of choice for multi-level data and will average out the amount of change across all data collection points (i.e., intake, 6-month, annual). The annual time point includes youth at the time they were released as well as 12-month outcome assessments, since some youth were released prior to nine months.

**Findings**

From March 1, 2000 through June 30, 2002, 133 adolescents from the three county programs had been assessed for the JOP. Of these 133 assessed youths, 68 were admitted (referred youth) for treatment in the JOP of which 45 had been released from the program. The following data are based on the 68 youths referred into the program.

**Demographics.** The Juvenile Offender Project youths averaged 7.8 months of program participation with a range from .26 months to 21.43 months. These youths’ average age was 15.5 years. JOP youths were mainly Caucasian (24), African-American (26) or Hispanic (6), with the majority being male (60). These youths demonstrated an average Full Scale IQ of 85, with mean Verbal and Performance IQs of 85 and 86, respectively. Full Scale IQ scores ranged from a low of 53 to a high of
Sixty-nine percent of the youths, for whom we have data (51), demonstrated IQs in the Low Average (21, 41%), Borderline (9, 18%), or Intellectually Deficient (5, 10%) ranges of intellectual functioning. Thirty-one percent of the youths demonstrated IQs in the Average (14, 27%) or High Average/Superior (2, 4%) ranges (Figure 1).

Figure 1. Youth IQ.

The JOP Youths demonstrated extensive offending histories, with 438 current and/or past cases brought against them with a total of 673 associated charges. The number of cases brought against any particular youth ranged from one to 20, which was the maximum number of cases tracked, with the number of associated charges ranging from one to 29. On average, JOP Youths had a history of being adjudicated in approximately 6.42 cases with 9.81 associated charges. A wide range of types of charges was brought against the JOP Youths. Examples of first charges included Domestic Violence (9), Theft (5), Felonious Assault (5), Assault (5), Aggravated Assault (3), Burglary (3) and others including Breaking and Entering, Receiving Stolen Property, Complicity, and Carrying Concealed Weapons.

LSI Risk Assessment scores were available for JOP Youths. Seventy-six percent (52) of the youths were perceived by Parole Officers, Juvenile Court staff, or JOP staff as at Moderate (28, 41%) to High (24, 35%) risk for offending. The remaining 24 percent (16) were perceived as at Very High Risk (3, 4%) or at Low Risk (13, 19%) for offending.

The JOP Youths demonstrated a variety of mental dysfunctions. Fifty-five (81%) youths were diagnosed with two or more DSM IV (American Psychiatric Association, 1994) Axis I diagnoses with twenty-eight youths (41%) demonstrated three or more diagnoses. The most frequent Principal Axis I diagnostic classifications were Mood Disorders (36), Behavior Disorders (15), Psychotic Disorders (4), Anxiety Disorders (4), Substance Use Disorder (2), and Other disorders (2; Figure 2). Fifteen youths had Axis II diagnoses of which the majority was identified as Mild Mental Retardation (11, 67%). Others included Borderline Personality Disorders (1), Schizotypal Personality Disorder (1), Narcissistic Personality Disorder (1), Antisocial Personality Disorder (1) or Reading Disorder (1). The JOP Youths had a mean Globalized Assessment of Functioning rating of 45. This rating reflects “serious symptoms” and/or “serious impairment in social, occupational, or school functioning” (American Psychiatric Association, 1994; p. 32).
Medication use was high among JOP Youths when entering the program. Fifty-two youths (76%) were taking two or more medications with forty-two (62%) youths taking one to three medications and ten (15%) youths taking more than three medications. The primary psychotropic medications were Depakote (18), Risperdal (17), and Zyprexa (10).

Placement and service usage across JOPs varied widely from site to site. Generally speaking, the most frequent placement days overall included Residential (5,946), Home (3,367) and Detention (1,172). Other placement options included Foster Care (76), Group Home (6) and Hospital Treatment (24). The most common types of mental health/psychoeducational treatments provided in the JOP programs were Group Counseling/Psychotherapy (3,462), Medication (3,056), Individual Counseling/Psychotherapy (1,264), Community Support Programs (1,105), Social/Recreational Programs (896) along with other mental health services such as Family Counseling, Crisis Intervention, Diagnostics/Assessment, Partial Hospitalization/Day Treatment, Vocational Services and Occupational Therapy.

Outcomes of Treatment. Outcomes of treatment implementation were examined utilizing correlational analyses to determine what types of treatment (i.e., placement, mental health services, or programs) were associated with the LSI risk assessment and Ohio Scales intake, as well as the Ohio Scales mid-year and annual assessment points. This type of analysis does not allow one to predict the outcomes of youth based on the type of treatment or determine the method of best practice; however it does allow one to examine the relationships that exist between types of treatment and youths’ problems and level of functioning, as reported by the youth, parent, and worker. The following is a summary of this analysis:

- Youths who spent more days in residential treatment had parents who reported a lower number of problems and more satisfaction with the relationship than youths who spent fewer days in residential treatment.

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1 Only associations between treatment and outcome (i.e., correlations) were examined in the current analyses. Predictive models that would examine the ability of treatment to predict or explain the changes in the Ohio Scales Problem or Functioning Scales were not analyzed due to the small number of participants.
• In general, youths who were typically at a higher risk level, had more problems, and were lower functioning at intake received more days of mental health services than youths who were lower risk, had less problems and had higher functioning.

• The more individual and group counseling and crisis intervention a youth received, the higher functioning and fewer problems youth exhibited at annual assessment.

• The higher the level of risk and functioning, as reported by worker at intake, the more social/recreational and vocational services a youth received.

• The more vocational services received, the higher functioning the youth exhibited and the more satisfaction with the relationship was reported by parents at annual assessment.

• The more community support services a youth received, parents and youths reported more problems and less satisfaction with life/relationship at annual assessment.

Assessment of Change. HLM was used to assess changes in youths’ functioning over time as reflected by the Ohio Scales (OS). The OS were given to the youth, worker, and parent at intake, midyear/six-month, and annual (12-month or release). Scores at these data point collections reflect the group’s average perceptions. Ideally, the HLM analyses would be based on nearly complete, longitudinal data. Although OS were completed for some youths within the program, OS were not consistently completed for each youth across all data collection points (i.e., intake, 6-month, 12-month/release). As a result, the HLM analyses can provide a general picture of change over time of youth within all three programs; however, specific youth and program characteristics cannot be examined. The following results summarized the analysis.

Youth Problems. The Problem Severity Scale assessed the amount of behavior and emotional problems that the youth might have had within the past 30 days, such as fighting or arguing with others, fits of anger, skipping school, and thinking about death or hurting oneself. The youth, parent, and worker were to complete this scale at intake, midyear, and annually. All three groups who reported on youth problems (i.e., youth, parent, and worker) reported a significant decline in the amount of problems a youth experienced from intake to midyear and finally to annual (see Figure 3).

Figure 3. Youth Problems.
Youth Functioning. Similar to the Problem Severity Scale, the Functioning Scale is completed by the youth, parent, and worker at intake, mid-year, and annual. The Functioning Scale assesses how well the youth is carrying out daily tasks, along with social skills. The scale includes questions that ask about the youth’s ability to get along with family and friends, hygiene, accepting responsibility for one’s behavior, and being able to express emotions. The Functioning Scale ranges from “0-having extreme troubles” to “80-functioning very well in all areas” meaning a higher score equals better functioning.

On average, youths reported the highest level of functioning at the OS intake assessment, while workers and parents reported lower, similar levels of youth functioning (Figure 4). The youth, parent, and worker reported significantly higher levels of functioning for the youth as he/she progressed through the program.

Figure 4. Youth Functioning.

Satisfaction with Life and Treatment. Both the youth and the parent were asked to complete four questions regarding satisfaction with life or with their relationship. The youth OS form asked youths to report on their hopefulness for the future and satisfaction with life, while the parent OS form asked parents to report on their satisfaction with their relationship with the youth. Both the youth and the parent reported a significant increase in their satisfaction with life or relationship with their child.

Both the youth and parents were also asked how satisfied they were with treatment at each assessment point. Overall, parents reported more satisfaction with services than did youths at all assessment points. Both youth and parent reports of satisfaction with services significantly increased from intake to the annual assessment.

Qualitative Analysis. The qualitative analysis focused on what happens to project youths throughout the system, how each community’s youth-serving system was impacted by the project, and what system changes occurred as a result of the project. The qualitative data were based on focus groups conducted at each of the three sites midway through the project. The focus groups consisted of five different groups including the mental health board, juvenile court staff, providers, parent/families, and judges. The following are themes that evolved among participants in the focus groups:

- Positive family involvement in the program was important to participants.
- The program provided an alternative to ODYS commitment.
- The level of care and security was appropriate while in the program.
• The program reaffirmed differences between mental health and juvenile justice systems.
• There is a need to increase the number of community-based mental health services.

**Discussion**

As noted previously, the prevalence of mental health problems among juvenile offenders is not well documented (Huizinga & Jakob-Chien, 1998). The JOP adds to this body of knowledge by documenting the co-occurrence of psychological dysfunction and offending. It also moves the field forward in that, not only are psychologically disturbed youthful offenders identified and described, they are also provided treatment that they would not normally receive were they housed in the general ODYS population.

The evaluation of the JOP had several goals. In what follows, we restate these goals as evaluation questions and assess whether or not they were met:

• Was the program able to identify mentally ill youths who needed mental health treatment?

The JOP Program sites appear to have successfully identified mentally ill youths. Across sites, the predominant DSM-IV diagnoses are Mood and Psychotic Disorders, along with Behavior Disorders. The fact that psychotropic medications were so frequently used at all three sites also suggests significant mental health dysfunction, as do the parent and worker baseline Ohio Scales scores.

• Was the program able to provide treatment to these youths and was this treatment appropriate?

All three sites were able to provide treatment, though what had to be accomplished to allow treatment delivery varied from site to site. Clients at all three sites received individual, family, and group therapy. They also received psychotropic medication. What varied across sites were the amounts of these and other treatments, this variation signaling different treatment philosophy.

• Does the information that has been gathered provide for an adequate description of these youths?

The information that has been successfully gathered provides detailed and useful information about the clients’ demographics, offending history, and mental health status, and, thus, added significantly to what is known about this population.

• Did the program result in measurable positive change?

The data indicate significant decreases in youth Problem Severity, significant increases in youth positive Functioning, and significant increases in youth Hopefulness. Significant positive changes also occurred for youth Satisfaction with Behavioral Health Services. Note that these changes occur from the perspectives of youths, parents, and JOP workers. The evaluation was not designed for comparison to a control group, therefore, it is not possible to unequivocally attribute these changes to treatment.

• Are there issues that need to be considered in future juvenile offender treatment efforts?

The focus groups identified three major themes that need to be considered in future juvenile offender treatment efforts. First, families need to be involved in the treatment process. Many JOP families became quite engaged in the Program. They acted as advocates for their children and
made themselves available to providers. Providers often solicited family input on treatment issues. Involving families in this way made them Program allies and may lead to positive environmental changes in the youth’s home.

Secondly, Juvenile Court judges valued having an alternative placement for mentally ill juvenile offenders. There were many instances in which judges would have had to remand a mentally ill youth to ODYS, had they not had the option of placement with the Juvenile Offenders Program. Since the option was there, they used it. Were treatment for mentally ill juvenile offenders to continue to be available, judges would likely continue to use it.

Finally, any attempt to bring together the juvenile justice and mental health treatment systems must keep system differences in mind. The two systems have differing approaches to many important issues. There are also basic system stereotypes that must be confronted. Ignoring or glossing over these differences is likely to negatively impact the success of such efforts.

Summary

The prevalence of mental health problems among juvenile offenders is not well documented (Huizinga & Jakob-Chien, 1998). The JOP added to this body of knowledge by documenting the co-occurrence of psychological dysfunction and offending among juveniles. These projects were also important because they provided treatment to a historically underserved population of youth who do not typically receive all of the necessary services when housed in the general ODYS population. As a result, youth outcomes from participating in the JOP program were reported as follows:

- Youths, parents, and workers reported a significant decline in the amount of problems youth experienced from intake to mid-year and annually.
- Youths, parents, and workers reported significantly higher levels of functioning for youths as they progressed through the program.
- Youths and parents reported a significant increase in their satisfaction with life or relationship with their child.
- Youths and parents reports of satisfaction with services significantly increased from intake to the annual assessment.

Because these analyses depict a general change over time of youths within only three county programs, additional research needs to be completed to better understand the impact of mental health service programs on this population.

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Flannery, D., Cunningham, N., & Kanary, P. (2003, March). *Mental health services to juvenile offenders*. Paper presented at the All Ohio Institute on Community Psychiatry, Cleveland, OH.
The locus of care for mental illness in the United States has traditionally been described as either community-based or centralized, asylum-based. The conventional view of the history of the locus of care asserts that there have been three distinct eras of care. These eras are (1) the eighteenth century in which care rested with the community; (2) the “age of asylum” (approximately 1800 through the 1950s) in which mental health care was centralized in asylums provided by the state or by the private sector, and (3) the present age of deinstitutionalized community care which began in the 1960s. The traditional view is that the community played a role in only the first and third eras. Scholars have viewed the locus of care as situated within the asylum during the nineteenth century and the first half of the twentieth century. Accordingly, most if not all asylum case studies have focused on the inner workings of the institutions. None have studied an asylum in the context of its surrounding community.

Significance

The question of how best to organize community-based and centralized facilities to provide mental health care continues to be discussed. "Scull's dilemma", which contends that neither traditional mental hospitals nor community-based care have provided optimal mental health care, describes for the most part the facts of mental health care today (Scull, 1996). Most studies of American asylums have focused on the inner workings of the institutions. This research studies an asylum in the context of its community.

Research Question

This study has explored the nature of the connections between asylum and community by way of the history of the Athens Lunatic Asylum from 1867 through 1893 as it related to the Village of Athens, Ohio. Specifically, the research question was: What was the nature of the connections between the Athens Lunatic Asylum and the Village of Athens, from 1867 to 1893? These connections have been explored in five areas of community and asylum life: (a) social order, (b) family, (c) landscape, (d) infrastructure, and (e) money economy.

Method

This project is a historical organizational case study focusing on an institution within a community. Of the types of case studies outlined by Stake (1995), the task of this study has been interpretation. This exploration of asylum-community connections relies on the constructivist perspective within the qualitative research tradition to reconstruct the meaning of asylum and community in nineteenth century Athens.

A variety of documents and photographs from an array of people, institutions, organizations and groups were used to construct this history. Bogdan and Biklen’s (1998) taxonomy of documents was used to sort this information. This taxonomy includes (1) personal documents such as letters and diaries; (2)
official documents such as Asylum annual reports, U.S. census information, and commitment documents, and (3) popular culture documents such as newspapers, atlases, and photographs.

**Findings**

Between 1867 and 1893, the Asylum was connected with Athens in five distinct areas: money economy, landscape, political and physical infrastructure, family and social order. These connections were forged by the Asylum’s need for goods and services and by the needs of the Athens community for jobs and cash. They were also sustained by the community’s needs for recreation and entertainment, for a humanitarian resource for those with mental illness, and at times for a means of social control. The political and physical infrastructure, and the formal and informal networks that functioned to control the county commitment process all served to make possible the connections that met the needs of both asylum and community.

**Money Economy**

This research identified the ways in which the Asylum functioned as customer and employer in the Athens community, thus contributing to the development of a money-based local economy which replaced the older, barter economy. The Athens Lunatic Asylum was a major source of cash, or profit center, for the Athens community. Levine and Perkins (1997) note that asylums became embedded in their communities, which in turn eventually became financially dependent upon them. It is hard to know the exact extent to which the Athens economy became dependent upon the Asylum. However, Athens farmers must have come to depend upon the Asylum’s extensive fresh food purchases; Athens merchants enjoyed year-round patronage by Asylum stewards as well as Asylum staff; the Asylum was the newly-formed Athens Gas Light Company’s single largest customer, and Athens men and women worked at the Asylum at staff jobs and day labor. Certainly, Athens builder Henry O’Bleness began his career with a woodwork contract at the Asylum and eventually became a wealthy, prominent man from his construction contracts with the Asylum and other places. Asylum contracts for meat, milk, and coal were awarded each year to Athens farmers. In a five year period alone, from 1878-1882, nearly two hundred individuals from Athens Township sold a wide variety of goods and services to the Asylum.

**Landscape**

This research documented the ways in which the Athens Lunatic Asylum grounds functioned as a patient treatment ground, the extent to which they functioned as a community resource, and the permeable nature of the physical boundaries between town and asylum.

The Asylum grounds provided a permeable boundary between institution and community. It was a work site for both patients and employees. Lacking public parks, the Athens community used the Asylum grounds as a recreation destination; the grounds were also used as a treatment site for patients. These grounds as well as the Asylum buildings were designed according to the specifications of moral treatment. Moral treatment dominated American asylum medicine in the nineteenth century (Tomes, 1994). Its features included the belief that mental illness was curable, that physical punishment should be abolished, and that a system of routines and diversions in a restful setting was therapeutic (Gerlach-Spriggs, Kaufman, & Warner, 1998). Spending time outdoors on attractively designed asylum grounds was thought to serve a curative function. The Asylum landscape was the legacy of the work of Cincinnati landscape designer Herman Haerlin, the supervision of groundsman George Link, and the combined work force of patients and town day labor. These grounds, a source of pride to both the community and Asylum administrators, remained a regional showcase until the 1960s, when they were almost completely destroyed by the relocation of the Hocking River.
Infrastructure

The Athens community used the state and local political infrastructure to advance its interests with regard to the Asylum. Prominent Athens men worked to bring to Athens what would become Ohio’s fifth state-supported lunatic asylum. (The first state asylum in Ohio was built in 1821 in Cincinnati. In 1838 state support for this asylum was withdrawn. The Athens Lunatic Asylum was thus the fifth state asylum opened in Ohio, but it was one of only four operating state-supported asylums.) Athens County’s representative to the legislature, Dr. William Johnson, worked to introduce legislation authorizing an additional state asylum for Ohio. Johnson undoubtedly worked to secure the governor’s appointment of Athens businessman E.H. Moore to serve as one of three men on the first Board of Trustees, which was charged with finding a location for the asylum. Moore helped organize the subscription which raised money to pay for the State’s acquisition of the original 150 acre site for the Asylum, and he surely argued for Athens when the Board met to choose from among thirty locations for the new Asylum.

The Asylum’s “local trustee” represented the interests of the Athens community in the Board of Trustees administrative work. From 1868 through 1891, seven different prominent Athens citizens served as local trustees. Each had the task of balancing community and Asylum interests in matters of contracts, purchasing, hiring, and infrastructure and possibly in such areas as patient admissions and landscape.

Transportation, communication, and sanitary engineering were some of the ways in which the physical infrastructure connected Asylum and community. The Asylum collaborated with the Village to expand the transportation infrastructure, and the Asylum was a leader in use of the telephone. However, Asylum and community collided over issues of wastewater disposal and pollution of the Hocking River.

Village and Asylum had a mutual interest in transportation connections and therefore collaborated to build roads and walkways. Also, the first telephone lines in Athens were those installed by the Asylum to connect itself with the train depot and with a local drug store. In the 1890s, though, the Asylum was taken to task by the community as a public nuisance, when its sewers contributed to pollution of the Hocking River and the Village water supply.

Family

Athens families used the Asylum more as a source of work and jobs than as a resource for patients. An average of two to three Athens Township residents were committed each year, out of the nearly 150 patients admitted on average each year from the Asylum’s multi-county service region. Also, Athenians used the Asylum at a slightly lower rate than did the rest of Athens County. Certainly, however, Athens families did use the Asylum for respite and remedy purposes. The institution was a community resource for the elderly with dementia, for those suffering from depression (or melancholia as it was then termed), for those with drug and alcohol abuse and addictions, and for those likely to harm others or themselves. It may also have been a resource for families wishing to rid themselves of troublesome family members. A few fathers brought their daughters, young women who, because of their predilection to wander off or have menstrual difficulties, may have been seen as nonproductive members of the family. Likewise, middle-aged women were hospitalized for vague reasons alluding to menopause.

Community Social Order and Organization

Concerning community social order and organization, this research sought to identify whether and how the Asylum functioned in the community as a humanitarian resource or as an agent of social control. It also explored the community status of Asylum superintendents and physicians.
In Athens, the Asylum served as both a resource for humanitarian care as well as a mechanism for social control. Certainly, the Athens Lunatic Asylum served as a humanitarian resource for patients. It offered care for those with severe mental illness, those who needed a respite from extreme psychosocial stresses in their environment, and those for whom a life event had precipitated an episode of mental illness. On the other hand, the Asylum also accepted persons who were simply problematic to the community, such as homeless men (known as tramps) and persons with epilepsy. Interestingly, in 1887, the Asylum admitted a coal miner whose only apparent symptom was his intense interest in forming a labor union, at a time when the Hocking Valley was literally ablaze with labor conflicts.

The Asylum and its officers played a role in the social order and organization of Athens. They sometimes figured in the social landscape of Athens; some superintendents were so well thought-of that even after they had left the Asylum, they were invited to return “home” for special events such as giving the commencement address at Ohio University. Most superintendents in the period of this study enjoyed prestige in the community. Probably they also wielded informal power in addition to their influence on purchasing and jobs. The steward, who made most of the Asylum purchases, was also an important community figure.

On the community side, Athens judges and physicians served as gatekeepers to the Asylum for Athens residents. A handful of these men worked together over the years to complete lunacy inquests, the prerequisite for admission to the Asylum.

The Asylum and Athens were connected by their functions as entertainment resources. The Athens community participated in social events held at the Asylum. Athenians attended private parties given by officers of the Asylum, public Fourth of July celebrations on the Asylum grounds, and concerts and dramatic presentations held for patient entertainment. Likewise, patients and staff came to town for events such as the Athens County Fair.

Discussion

This research contrasts with the conventional view of locus of care in two ways. First, this study focused on the community context of an asylum. The unit of analysis for the study was the Asylum and its surrounding community, rather than the Asylum alone. Second, this case study demonstrates that the Athens community in fact participated with the Asylum in providing mental health care, both indirectly and directly. The community participated indirectly through its provision of products, services and employees to the Asylum. It participated directly when, in the 1890s, community members received patients into their homes to participate in the work of the household.

This study is an example of a community’s collaboration with an asylum at a time when care has been thought of as situated within the asylum. In Athens, the boundaries between community and Asylum were porous. Rather than remaining isolated from the Athens Lunatic Asylum, the Athens community had many connections with the Asylum and indeed participated vigorously in Asylum affairs. From 1867 to 1893, the Asylum’s connections with the Village of Athens were many-faceted and complex.

This research documents three aspects of asylum-community connection which have received little attention from researchers: the landscape, the infrastructure, and the money economy. Asylum scholars have referred in passing to the role of asylums in providing jobs and money to the community (Levine and Perkins, 1997; Sitton, 1997; Tomlinson, 1996). However, none have taken up as a focus of study the role of landscape, infrastructure, and the economy as connections between asylum and community.
Implications for Mental Health Care Today

This research demonstrates that asylum and community were linked in many ways in nineteenth century Athens. It is an example of how “looking bigger” rather than “looking smaller” can expand understanding of a phenomenon, in this case an asylum. This study provides a picture of the structure of community mental health care in late nineteenth-century Athens. It also suggests that individual communities can be effective in providing care for those with mental illness.

Today, mental health care is re-centered in the community, and with the positive results of deinstitutionalization have come negative consequences. For example, Williams and Doessel (2001) describe the resulting isolation and homelessness in which many with serious mental illness live. Lefley (1996) describes families unprepared and untrained for the care-giving required for mentally ill relatives. Better community connections for mental health consumers and their families could improve the possibilities for recovery. The areas identified here--infrastructure, economy, family, social organization, and landscape--are useful places for constructing and renewing connections to the community for community mental health consumers.

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<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Affiliation</th>
<th>Address</th>
<th>Telephone</th>
<th>Fax Number</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeffery B. Allen, PhD</td>
<td>Associate Professor</td>
<td>School of Professional Psychology</td>
<td>(937) 775-4872</td>
<td>(937) 775-3421</td>
<td><a href="mailto:jeffery.allen@wright.edu">jeffery.allen@wright.edu</a></td>
</tr>
<tr>
<td>Steven M. Banks, PhD</td>
<td>Chief Mathematician</td>
<td>c/o The Bristol Observatory</td>
<td></td>
<td></td>
<td><a href="mailto:Tbosteve@aol.com">Tbosteve@aol.com</a></td>
</tr>
<tr>
<td>David E. Biegel, PhD</td>
<td>Henry L. Zucker Professor of Social Work</td>
<td>Mandel School of Applied Social Sciences</td>
<td></td>
<td></td>
<td><a href="mailto:david.biegel@case.edu">david.biegel@case.edu</a></td>
</tr>
<tr>
<td>Betsey A. Benson, PhD</td>
<td>Nisonger Center</td>
<td>1581 Dodd Drive</td>
<td></td>
<td></td>
<td><a href="mailto:benson.3@osu.edu">benson.3@osu.edu</a></td>
</tr>
<tr>
<td>Joyce R. Borkin, PhD</td>
<td>School of Social Work</td>
<td>University of Cincinnati</td>
<td></td>
<td></td>
<td><a href="mailto:joyce.borkin@uc.edu">joyce.borkin@uc.edu</a></td>
</tr>
<tr>
<td>Aaron Breedlove, MA</td>
<td>Department of Psychology</td>
<td>University of Toledo</td>
<td>(419) 530-2721</td>
<td></td>
<td><a href="mailto:aaronbreedlove@hotmail.com">aaronbreedlove@hotmail.com</a></td>
</tr>
<tr>
<td>Donna Bricker, RNC, MSN, CNS</td>
<td>Department of Nursing</td>
<td>Youngstown State University</td>
<td>(330) 941-3000</td>
<td></td>
<td><a href="mailto:lbuckeye@kent.edu">lbuckeye@kent.edu</a></td>
</tr>
<tr>
<td>Laura A. Buckeye, MPH</td>
<td>Project Director</td>
<td>Institute for the Study &amp; Prevention of Violence</td>
<td>(330) 672-3195</td>
<td>(330) 672-4711</td>
<td><a href="mailto:lbuckeye@kent.edu">lbuckeye@kent.edu</a></td>
</tr>
<tr>
<td>Peter F. Buckley, MD</td>
<td>Professor and Chairman</td>
<td>Department of Psychiatry and Behavioral Health</td>
<td>(706) 721-6719</td>
<td>(706) 868-0762</td>
<td><a href="mailto:pbuckley@mail.mcg.edu">pbuckley@mail.mcg.edu</a></td>
</tr>
<tr>
<td>Wesley A. Bullock, PhD</td>
<td>Director, Psychology Clinic &amp; Training Center</td>
<td>Department of Psychology</td>
<td></td>
<td></td>
<td><a href="mailto:wesley.bullock@utoledo.edu">wesley.bullock@utoledo.edu</a></td>
</tr>
</tbody>
</table>
Emily C. Bunt, MS
Decision Support Services, Inc.
27 E. Russell Street, Site 302
Columbus, OH 43215
Telephone: (614) 221-1474
Fax: (614) 221-7131

Michael P. Carey, PhD
Kobacker Center
Medical College of Ohio
3130 Glendale Avenue
Toledo, OH 43614
Telephone: (419) 383-3815
E-mail: mcarey@mco.edu

David Carlston, PhD
715 W. Hughbert Street
Normal, OK 73069
E-mail: dryflyfanatic@hotmail.com

Carol Carstens, PhD, LISW
Office of Program Evaluation & Research
Ohio Department of Mental Health
30 E. Broad Street, Suite 1170
Columbus, OH 43215-3430
Telephone: (614) 466-8651
E-mail: carstensc@mh.state.oh.us

Sheri Chaney-Jones, MA
Decision Support Services, Inc.
27 E. Russell Street, Suite 302
Columbus, OH 43215
Telephone: (614) 221-1474

Ronald K. Chordas, PhD
Assistant Provost for Academic Administration
Youngstown State University
One University Plaza
Youngstown, Ohio 44555-4628
Telephone: (330) 941-4628
Fax: (330) 941-2285
E-mail: rkchorda@ysu.edu

Dushka Crane-Ross, PhD
Office of the Medical Director
Ohio Department of Mental Health
30 E. Broad Street, 8th Floor
Columbus, OH 43215-3430
Telephone: (614) 644-2182
E-mail: crane-rossd@mh.state.oh.us

William D. Diorio, PhD, LISW
Research and Recovery Services LLC
8261 Market Street
Suite C
Boardman, OH 44512
Telephone: (330) 758-2079
Fax: (330) 758-5793
E-mail: recoveryresearch@sbcglobal.net

Kathy Dowell, MS
3026 Kentucky Avenue, N.
Crystal, MN 55427
E-mail: kadowell@yahoo.com

Claire Burke Draucker, RN, PhD, CS
Distinguished Professor
College of Nursing
Henderson Hall
Kent State University
Kent, OH 44242-001
Telephone: (330) 672-8805
E-mail: cdraucke@kent.edu

Anna J. Esbensen, PhD
Waisman Center
University of Wisconsin-Madison
1500 Highland Avenue
Madison, Wisconsin 53705-5609
Telephone: (608) 263-5609
E-mail: esbensen@waisman.wisc.edu

Nicole M. Evangelista
Graduate Student
Ohio University
200 Porter Hall
Athens, OH 45701
Telephone: (740) 597-2925
E-mail: nicole_evangelista@hotmail.com
<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
<th>Address</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Megan Harvey, MA</td>
<td>Department of Psychology</td>
<td>University of Cincinnati</td>
<td>Telephone: 513-556-0895 E-mail: <a href="mailto:harveymg@email.uc.edu">harveymg@email.uc.edu</a></td>
</tr>
<tr>
<td>Karissa Hanson</td>
<td>Synthesis, Inc.</td>
<td>395 E. Broad Street, Suite 100</td>
<td>Telephone: (614) 365-9444 Fax: (614) 365-9016 E-mail: <a href="mailto:synthesis@synthesisinohio.com">synthesis@synthesisinohio.com</a></td>
</tr>
<tr>
<td>James Healy</td>
<td>Director of Evaluation and Information Services</td>
<td>Stark County Community Mental Health Board</td>
<td>Telephone: (330) 455-6644 E-mail: <a href="mailto:jim_h@starkmhb.org">jim_h@starkmhb.org</a></td>
</tr>
<tr>
<td>Laurie Heller, BS</td>
<td>The Institute for Behavioral Research</td>
<td>University of Georgia</td>
<td>Telephone: (706) 542-1806</td>
</tr>
<tr>
<td>Michael F. Hogan, PhD</td>
<td>Director</td>
<td>Ohio Department of Mental Health</td>
<td>E-mail: <a href="mailto:HoganM@mh.state.oh.us">HoganM@mh.state.oh.us</a></td>
</tr>
<tr>
<td>Patrick Hollenbeck, MS</td>
<td>Manager, Evaluation Systems</td>
<td>Alcohol, Drug Addiction and Mental Health Services Board for Montgomery County</td>
<td>Telephone: (937) 443-0416 Ext. 119 E-mail: <a href="mailto:phollenbeck@adamhs.co.montgomery.oh.us">phollenbeck@adamhs.co.montgomery.oh.us</a></td>
</tr>
<tr>
<td>Wun Jung Kim, MD, MPH</td>
<td>Kobacker Center</td>
<td>Medical College of Ohio</td>
<td>Telephone: (419) 383-3815 E-mail: <a href="mailto:wjkim@mco.edu">wjkim@mco.edu</a></td>
</tr>
<tr>
<td>Melissa Klein, MA</td>
<td>Department of Psychology (#948)</td>
<td>University of Toledo</td>
<td>Telephone: (419) 530-2719 E-mail: <a href="mailto:mklein78@hotmail.com">mklein78@hotmail.com</a></td>
</tr>
<tr>
<td>Michele S. Knox, PhD</td>
<td>Medical College of Ohio</td>
<td>Kobacker Center</td>
<td>Telephone: (419) 383-3815 E-mail: <a href="mailto:mknox@mco.edu">mknox@mco.edu</a></td>
</tr>
<tr>
<td>Christine Larson, MA</td>
<td>Department of Psychology (#948)</td>
<td>University of Toledo</td>
<td>Telephone: (419) 530-2721 E-mail: <a href="mailto:cinquino_larson@yahoo.com">cinquino_larson@yahoo.com</a></td>
</tr>
<tr>
<td>Richard L. Leavy, PhD</td>
<td>Professor</td>
<td>Department of Psychology</td>
<td>Telephone: (740) 368-3817 E-mail: <a href="mailto:rlleavy@owu.edu">rlleavy@owu.edu</a></td>
</tr>
</tbody>
</table>

**New Research in Mental Health**

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Mo Yee Lee, PhD, RSW
Professor
College of Social Work
The Ohio State University
1947 College Road
Columbus, OH 43210
Telephone: (614) 292-9910
E-mail: lee.355@osu.edu

Erin Ley, BA
Synthesis, Inc.
395 E. Broad Street, Suite 100
Columbus, OH 43215
Telephone: (614) 365-9444 or (800) 322-9441
Fax: (614) 365-9016
E-mail: synthesis@synthesisincohio.com

Mary Miller Lewis, PhD
Postdoctoral Psychology Fellow
Clinical Services Coordinator
Senior Life Consultants, Inc.
Dublin, OH 43017
E-mail: mlewis41@hotmail.com

Gayle H. MacBride, MA
Graduate Student
Department of Psychology
University of Toledo
2810 W. Bancroft Street
Toledo, OH 43606-3390
Telephone: (419) 530-2721
E-mail: gaylewuttke@yahoo.com

Gordon Mapley, PhD
Youngstown State University
One University Plaza
Youngstown, Ohio 44555-4628
Telephone: (330) 941-4628
Fax: (330) 941-2285

Tiffany Marciniak, BA
Kobacker Center
Medical College of Ohio
3130 Glendale Avenue
Toledo, OH 43614
Telephone: (419) 383-3815

Jacqueline Martin
Executive Director
Lucas County Mental Health Board
701 Adams Street, Suite 800
Toledo, OH 43624
Telephone: (419) 241-4600
Fax: (419) 244-4707
E-mail: martin@lcmbh.mh.state.oh.us

Rick Massatti, MSW, LSW
Office of Program Evaluation & Research
Ohio Department of Mental Health
30 E. Broad Street, Suite 1170
Columbus, OH 43215-3430
Telephone: (614) 466-8651
E-mail: massattir@mh.state.oh.us

Gregorio Melendez, PhD
710 Johnnie Dodds Boulevard, Suite 200
Mt. Pleasant, SC 29464
E-mail: gregoriom_69@yahoo.com

Del D. Miller, PharmD, MD
University of Iowa
Psychiatry Research
2-105 MEB
Iowa City, IA 52242-1000
Telephone: (319) 353-4506
E-mail: del-miller@uiowa.edu

Somaia Mohamed, PhD
Department of Veterans Affair Medical Center
3200 Vine Street
Cincinnati, OH 45220
Telephone: (513) 861-3100 ext. 4847
E-mail: Somaia.Mohamed@med.va.gov

Dennis C. Moore, EdD
Associate Professor
Department of Community Health
Wright State University
School of Medicine
3171 Research Blvd., Suite 253
Kettering, OH 45420
Telephone: (937) 775-1484
Fax: (937) 775-1495
E-mail: dennis.moore@wright.edu
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