

# Trauma-Informed Day Services: An Initial Conceptualization and Preliminary Assessment

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## Abstract

Trauma-informed care (TIC) is a systems-focused philosophy of service delivery based upon principles of choice, collaboration, empowerment, safety and trustworthiness that recognizes the pervasive impact of trauma across the human experience. In a grassroots effort, one organization developed an innovative, trauma-informed day program to meet the needs of individuals with intellectual and developmental disabilities (IDD) who were recently deinstitutionalized. The present study is intended to provide an initial conceptualization and preliminary assessment of TIC within IDD services in order to understand its impact among individuals and staff. The study sought to answer the following questions: Has the program's culture been stable over time? How have individuals' behaviors changed over time? What have been the experiences of the program's staff members with TIC? Through a mixed methods design, secondary data analysis and semi structured staff interviews were used to assess the impact of TIC. Findings revealed an initial strong presence of choice, collaboration, empowerment, safety, and trustworthiness within the program's culture, with non significant changes at follow-up. Significant reductions were noted in overall challenging behavior, aggression, and PRN medication usage; while non significant changes were noted in physical interventions with the exception of "other" interventions (i.e., least restrictive) which significantly increased. Three major categories emerged from the qualitative data (making a difference, recognizing progress and compromising factors), illuminating staff satisfaction with work experiences, individuals' progress, and factors that challenged fidelity to TIC. The study provides a preliminary conceptualization and evidence for the efficacy of the integration of TIC into IDD services despite methodological limitations and concerns regarding the use of physical interventions. Directions for future research are presented.

**Keywords:** intellectual and developmental disabilities, program evaluation, staff, trauma-informed care

## Introduction

While psychological trauma has been the focus of an emergent body of intellectual and developmental disability (IDD) research, there is insufficient inquiry regarding the response and impact of organizations to the needs of individuals with trauma histories. This is concerning as organizations are a significant factor in advancing the quality of life for individuals with IDD through the provision of supports and services such as residential placements and day programs. However, trauma-informed care (TIC) has emerged as an organizational response to such implications predominantly within the non-IDD service delivery sector and has been promoted in the United States at the national level through such agencies as Substance Abuse and Mental Health Services Administration (SAMHSA, 2014).

In a grassroots effort, an organization serving individuals with IDD developed a day program within which TIC was integrated. This paper provides a brief overview of trauma and IDD

research; the conceptualization of TIC, current IDD services, and the integration of TIC within IDD services; and a description and a preliminary assessment of the day program. It is important to note, this is an *initial* attempt to provide a model and assessment of trauma-informed IDD services that is a formative process that has not been otherwise represented in the IDD literature.

## Trauma, PTSD, and Individuals with IDD

"Trauma" is defined as a person's experience of an uncontrollable/unpredictable event or enduring condition that is a threat to his/her life and integrity, or that of a caregiver or family member. The person is unable to integrate his/her emotional response to the experience due to the overwhelming nature of the event or condition (Saakvitne, Gamble, Pearlman, & Tabor Lev, 2000; van der Kolk, McFarlane, & Weisaeth, 2007) and often results in enduring biological, psychological and social sequelae (Brown, Baker, & Wilcox, 2012).

From a diagnostic perspective, trauma is associated with post-traumatic stress disorder (PTSD)—a chronic disorder with exposure to a traumatic event as a diagnostic criterion and

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symptoms of re experiencing, avoidance, and arousal (American Psychiatric Association, 2013). Given the diagnostic specificity of PTSD, many persons who experience trauma symptomology often go undiagnosed (Cukor, Wyka, Jayasinghe, & Difede, 2010; van der Kolk, 2005; Weathers & Keane, 2007). This may be particularly true for individuals with IDD, especially given diagnostic concerns related to disability-specific deficits, diagnostic overshadowing (Fletcher, Loschen, Stavrakaki, & First, 2007; Mevissen & de Jongh, 2010), and the failure of providers to consider the implications of trauma in individuals' current presentation (Mitchell & Clegg, 2005).

While mounting evidence has linked exposure to negative life events with psychological problems (Hulbert-Williams et al., 2013) and trauma responses (Wigham, Taylor, & Hatton, 2013) in individuals with IDD, reliable prevalence rates for trauma in the IDD population are lacking (Wigham, Hatton, & Taylor, 2011a). Cross-culturally, research has suggested that the IDD population is at greater risk of exposure to negative and potentially traumatic life events. For example, it has been noted that individuals with IDD are between 3 and 6 times more likely than persons without IDD to be abused or neglected (Hulbert-Williams et al., 2013; Soyulu, Alpaslan, Ayaz, Esenyel, & Oruc, 2013; Spencer et al., 2005; Sullivan & Knutson, 2000). Scotti et al. (2012) reported that 79% of individuals with IDD were exposed to at least one potentially traumatic event, with individuals exposed to, on average, 2.8 events. Further, the types of events that individuals with IDD experience, such as institutionalization, dependency on caregivers and being physically restrained, are likely uncommon in the non-IDD population (Hulbert-Williams et al., 2013; Wigham et al., 2013).

In order to more fully appreciate the implications of trauma among individuals with IDD, it is important to consider the following points. Many risk factors associated with trauma responses and PTSD such as low socio economic status, lack of education, lower IQ, lack of social support, and life stress (Brewin, Andrews, & Valentine, 2000; Ozer & Weiss, 2004) are particularly prevalent among individuals with IDD. In addition, physical and mechanical restraints as well as other aversive practices have historically been used to manage and ameliorate challenging behavior among individuals with IDD. While the use of such techniques and interventions has become increasingly controversial given their potential risks for injuring, traumatizing, or retraumatizing individuals, such practices continue to be used (Williams, 2010). Similarly, service providers' failure to screen individuals for traumatic experiences and assess for trauma symptomology has often led to reliance upon traditional interventions (e.g., behavior management) that do not appropriately address trauma-related behaviors and needs (Scotti et al., 2012). As such, there is a need for increased sensitivity toward trauma in *what* and *how* services are delivered, as well as the policies that govern practice.

### Trauma-Informed Care

Trauma-informed care is a philosophy of service delivery that was developed in response to an increased awareness of the prevalence and impact of trauma throughout the life course (Anda et al., 2006; Butler, Critelli, & Rinfrette, 2011). It represents an

organizational commitment to a culture based upon principles of choice, collaboration, empowerment, safety, and trustworthiness, which is sensitive to the needs of persons who have experienced trauma (Harris & Fallot, 2001). Although TIC is not intended to specifically treat trauma symptomology, it identifies traumatic experiences as central to one's identity and urges sensitivity toward the potential for pathology associated with prior trauma to manifest in a person's present circumstances (Bloom, 2006; Brown et al., 2012; Harris & Fallot, 2001). The adoption of TIC often requires a cultural shift for an organization. Although little is known about the length of time required to fully integrate and establish a stable trauma-informed culture, the organizational literature has suggested 5-10 years for cultural change to become embedded within an organization (Kotter, 1995).

In addition, TIC acknowledges the likelihood of trauma in the lives of service recipients *and* service providers (Bloom, 2006; Harris & Fallot, 2001). It was previously noted that nearly 80% of individuals with IDD may be exposed to potentially traumatic events (Scotti et al., 2012) with emerging evidence suggesting similar rates among employed caregivers. For example, Esaki and Larkin (2013) found that 70% of child care workers experienced at least one potentially traumatic event in childhood, approximately 11% higher than had been noted in a population-based study (i.e., 59.4% of individuals experienced at least one such event; Bynum et al., 2010).

In the non-IDD population, TIC has been associated with increased client satisfaction and decreased implementation of restraints and seclusion among youth in psychiatric treatment facilities (Azeem, Aujla, Rammerth, Binsfield, & Jones, 2011; Bloom et al., 2003), as well as improved consistency in staff approach and decreased aggressive acts between staff and clients (Bloom et al., 2003). Among staff in child congregate care facilities, TIC training has been associated with increased knowledge and self-reported behavior favorable to TIC (Brown et al., 2012). Similarly, after participating in TIC training, staff members in both the public and private sectors, including schools and hospitals, reported improvement in their ability to support clients with past trauma (Giller, Vermilyea, & Steele, 2006).

### Current IDD Services and TIC

Community-based organizations have increased commensurately with the advancement of deinstitutionalization of individuals with IDD. In the United States, from 1977 to 2009, the number of individuals receiving residential services grew from 247,780 to 439,515 (Lakin, Larson, Salmi, & Webster, 2010). Similarly, Braddock et al. (2013) noted an increasing number of individuals residing in supervised settings (i.e., from 368,989 individuals in 1994 to 613,184 individuals in 2011), as well as those receiving day/work and supported employment services (i.e., from 256,656 individuals in 1988 to 571,664 individuals in 2011). However, as organizations struggle to balance fiscal restraints and greater community inclusion of individuals (Burrell & Trip, 2011), the service delivery system is in flux with an increased focus on self-directed supports (e.g., caregiving, social and job skill trainings, goal development and obtainment) provided in family homes. Yet, individuals with more severe impairments and challenging behavior may likely require ongoing,

intense supports of more traditional services such as residential placement (Hewitt et al., 2008).

Regardless of the type of supports provided or the environments in which they are delivered, IDD organizations are largely guided by the philosophy and approach of person-centered planning (PCP; Claes, Van Hove, Candevelde, van Loon, & Schalock, 2010) with a focus on quality of life (QOL; Schalock, Verdugo, Bonham, Fantova, & Van Loon, 2008). Like PCP and QOL, TIC focuses on a standard of care that fosters the well-being of an individual with his/her interests and desires at the core of what and how support is given. However, in addition to the trauma lens, there are other key differences between TIC and PCP or QOL. Notably, TIC requires that the principles be applied to *not only* individuals receiving services as in PCP and QOL, but also to how administration interacts with staff members. Although human service organizations often implicitly follow many of the principles of TIC without identifying them as such in their delivery of services to recipients, they often fail to integrate them into the policies and procedures that focus on staff (Wolf, Green, Nochajski, Mendel, & Kusmaul, 2014). Given the extensive concerns of staff burnout and turnover (Hewitt & Larson, 2007), TIC offers a possible organizational response to fostering a more supportive environment for the staff.

In addition, TIC proposes that behaviors may manifest in response to traumatic experiences (Butler et al., 2011). This is a critically different perspective than that which has dominated the IDD field where behaviors have largely been attributed to the disability (Mevisen & de Jongh, 2010). Within TIC, behaviors that appear maladaptive may be identified as attempts at self-regulation and coping with trauma sequelae. Furthermore, the identification of behavioral triggers and the reduction of (re-)traumatization are given priority (Bloom, 2006; Butler et al., 2011).

Frontline staff employed in IDD organizations typically receive 40 hours of classroom-based training similar to the basic training used in institutions on topics such as “emergency procedures, blood borne pathogens, consumer rights, introduction to developmental disabilities, CPR, and first aid” (Hewitt & Larson, 2007, p. 181), with possible supplemental trainings in such areas as positive behavior supports (MacDonald & McGill, 2013). TIC instruction would complement and augment pre-existing trainings, providing an additional component that could be readily integrated into such topics as individuals’ rights and behavior. Similarly, the underlying premise of TIC that presupposes the prevalence of trauma among all persons, provides an additional common factor aligning staff and individuals with IDD.

### TIC Principles Within the Context of IDD Services

As previously noted, TIC is based upon the principles of choice, collaboration, empowerment, safety and trustworthiness (Harris & Fallot, 2001). Although a brief description of the principles of TIC within the context of IDD services follows; it can be found elsewhere in greater detail (Keesler, 2014).

**Choice.** Encouraging and providing opportunities for choice are an essential component of TIC. Sensitivity and thoroughness are required to ensure that individuals with IDD are well-

informed, above and beyond the simple opportunity to make a choice. It is important to clearly delineate individuals’ rights and responsibilities, providing a framework for choice-making.

**Collaboration.** Power is shared between management, staff, and individuals. The profound impact of staff in the lives of individuals and the value of their ongoing contact with individuals is acknowledged. Individuals are respected as experts in their life experiences and have ample opportunity to participate in service planning.

**Empowerment.** Fostering personal growth through training and opportunities is critical for staff and individuals to reach their potential. Through the recognition of staff and individual abilities, they can be encouraged to use such strengths when experiencing challenging situations.

**Safety.** “Safety” refers to both physical and emotional safety. While transparency in policies, adequate training and staffing patterns, and supervision may foster safety for staff, additional considerations for individuals with IDD include sensitivity in residential placement, respecting privacy, and supporting individuals in developing coping skills.

**Trustworthiness.** Primarily established through the relationships between management, staff and individuals, trust is influenced by clarity of responsibilities and explanations of procedures, and the maintenance of confidentiality. Those with trauma histories may be hesitant to trust others; therefore trust may have to be earned.

### Program Description and Development

In 2011, an organization in the northeastern United States developed a self-contained, trauma-informed day program for individuals who were part of the final phase of local deinstitutionalization. (The program was also to function as a temporary placement for the stabilization of individuals who may be poorly suited for traditional community-based programs.) Individuals had lengthy histories of institutionalization and complex behavioral needs (e.g., high-risk of harm to self and/or others). The program adhered to the organization’s overarching vision and developed a site-specific philosophy exemplifying the influence of TIC:

Through honesty, transparency, and understanding, we create a foundation for positive change at all levels. Through collaboration, creativity and empowerment we help each other rise to meet the challenge. Through safety and trust in action we reach our goals collectively, and create a community of hope no matter what the obstacles.

The program was directed by a master-level social worker, with access to a master-level behavioral health clinician and a doctoral-level psychologist. As the program was developed,

TABLE 1  
Examples of the application of TIC principles within the IDD day program

Principle	Group	Example
Choice	Staff Individuals	Actively engage in deciding daily activities and purchasing resources for individuals Able to choose which staff member they want to work with; refusals to participate in activities are honored and not labelled as noncompliant
Collaboration	Staff Individuals	Work alongside clinicians to develop treatment plans; work with peers to strategize and create new opportunities for individuals Provided with opportunities for group experiences and socialization
Empowerment	Staff Individuals	Afforded opportunities to provide input into program operations and to develop skillsets by attending voluntary trainings Provided with ongoing opportunities to actively explore new interests and activities; encouraged to calm through the use of coping strategies and self-management skills
Safety	Staff Individuals	Discussion and review of safety needs among staff with management at daily meetings; afforded opportunities for debriefing following physical interventions Physical layout of the site offered a safe environment in which individuals could be as independent as possible; provided with supervision levels that were reviewed and modified routinely according to progress
Trust	Staff Individuals	Able to make decisions without relying on a top-down authoritative process; trained to recognize that trust from individuals may need to be earned over time Afforded active listening, communication, and learning opportunities to develop trust with staff

leadership hired staff members that were perceived as proactive, creative, willing to collaborate without necessarily having prior experience in day services, and met agency requirements (e.g., at least a graduation equivalency diploma). Staff from the institution were not employed at the new day program. In addition to participating in the mandatory agency curriculum that included a behavioral training in proactive and preventative measures as well as physical interventions, the staff was trained by program leadership on trauma and stress, concepts associated with TIC, developing an environment for learning and healing, and a shared decision-making process (Bloom, 2006; Harris & Fallot, 2001). Contemporaneously, staff members observed the individuals at the institution for three months to learn current treatment approaches and to begin developing relationships. As new staff members were subsequently hired due to program development or turnover, they were educated through mentorship by senior staff as well as supervision and training from management. Although a consistent training approach was ideal, it became necessary to modify how subsequent staff members were trained due to additional demands upon the program director as well as the need to provide individuals with daily support.

The program operated Monday through Friday from approximately 8 am until 4 pm with a staff to individual ratio of approximately one-to-one and provided individuals with transportation to and from their residential placements. The program afforded individuals work, dining and relaxation areas, as well as opportunities to explore their interests through personalized

activities (e.g., craft-making) and community outings that were tailored to their interests (e.g., going to the airport to watch planes). The program also developed a wood-working shop in which individuals could make items as gifts and for sale. It is important to note that, given the nature of the program and the qualifications of the frontline staff, the program did not provide trauma-specific services intended to directly treat symptoms related to current or past traumatic experiences (Harris & Fallot, 2001). However, individuals had overarching support plans and were provided with external psychological/psychiatric supports.

Key Elements of the TIC Program. Specific examples demonstrating the application of the five principles of TIC in the IDD program are provided in Table 1. The program was exemplified by the sharing of power among management, frontline staff and individuals. While shared power is implicated across the five principles of TIC, more explicitly, management sought input from frontline staff for program operations, and, individuals and staff worked together on selecting activities going beyond the physical parameters of the program and into the community. Similarly, individuals and staff were permitted to select who they wanted to work with, where, and on what without assigned rooms, specified working relationships or highly structured schedules. Staff members were also afforded choice in collaborating with each other on outings and activities.

The program fostered relationship development with individuals and the building of "community" rather than relying on traditional staff-individual dynamics (i.e., providing behavior

management; Bloom, 2006). Daily end-of-the-day meetings were held to facilitate learning, relationship building, communication and the sharing of ideas and concerns among all staff members. Behavioral concerns were framed as responses to prior adversity rather than exclusively attributed to individuals' disabilities. Individuals were allowed to explore and respond to their environment and efforts were sustained to increase individuality and reduce restrictive measures (e.g., PRN medications). Particular emphasis was placed on environmental considerations to reduce behavioral triggers, overstimulation (e.g., ensuring calm environment by minimizing unnecessary noise, noting behavioral antecedents and modifying the environment accordingly, and establishing a calming area) and re traumatization, while promoting healing and growth.

### Purpose

To date, the integration of TIC and IDD services is absent from the literature. In conjunction with the understanding that TIC is intended to impact both service providers and recipients, the purpose of the present study is to provide a preliminary understanding and assessment of the impact of TIC within IDD services among individuals (i.e., occurrences of challenging behaviors, physical interventions, PRN medications, and injuries) and staff (i.e., assessment of program culture, staff perceptions). The study sought to answer the following questions: Has the program's culture been stable over time? How have individuals' behaviors changed over time? What have been the experiences of the program's staff members with TIC?

## Methodology

### Overview

Following approval by the agency and the university institutional review board, a mixed-method design was used to evaluate the presence of the principles of TIC within the program culture, as well as the impact of TIC on staff and individuals. The researcher obtained de identified, secondary data from the program which included staff-rated TIC measure data and individual-level data (i.e., challenging behaviors, physical interventions, staff/individual injuries and PRN medication usage). The researcher subsequently conducted interviews with the program staff. Although this would have been ideal, the researcher's ability to conduct meaningful interviews with the individuals with IDD was prevented by the severity of their disabilities (e.g., significant communication deficits).

### Sample

**Staff.** Demographics had not been collected when the TIC measures were completed (baseline:  $n = 13$ ; follow-up:  $n = 12$ ). The following demographics represent the 20 staff members who the researcher interviewed, many of whom completed the TIC measure at baseline/follow-up or both. Of the 20 staff interviewed, eight were involved at the start of the TIC program and

three were currently employed elsewhere in the agency. Thirteen were female and 18 were Caucasian. Half of the staff members were between 20 and 29 years old and had fewer than three years' experience in the IDD field. Eight staff had a high school diploma or its equivalent, and nine staff had baccalaureate degrees. Most staff were frontline/direct care staff ( $n = 14$ ) while others were nurses, support/administrative personnel and management.

**Individuals with IDD.** Data represented 16 individuals who participated in the day program; 15 were male and a majority were 40 years of age or older ( $n = 10$ ). Fifteen individuals lived in state-operated group homes and one individual lived in a residence run by a voluntary agency. Twelve individuals entered the program at its inception and four entered at various time points thereafter. All individuals had comorbid psychiatric diagnoses, with impulse control disorders most commonly noted ( $n = 11$ ), and eight were diagnosed with profound intellectual disability. No individual had a diagnosis of posttraumatic stress disorder despite evidence of trauma histories (discussed later in the article).

### Assessment and Measures

**TIC measure.** The 36-item, paper-and-pencil measure (Wal-drop et al., 2010) is based upon Falloot and Harris (2006) and assesses staff members' experiences of the organizational culture. The measure comprises five subscales: choice, collaboration, empowerment, safety, and trustworthiness. (An additional nine items assessing gender responsiveness and human rights were added to the instrument for site-specific needs at the time of its development. As such, these items were excluded from the study.) Item responses use a Likert-type scale ranging from *strongly disagree* (1) to *strongly agree* (5) with an additional "not applicable" response option. Higher subscale scores are desirable as they represent a stronger presence of the TIC principles within the organizational culture. Of the 36 items, 17 are reversed scored. Examples of items include: "I often fear for my safety while at work," and "If I am upset at work, I know that other staff and supervisors will be understanding." Initial psychometric properties for the full instrument are unavailable, however, subscales have alpha coefficients ranging from .721 to .849 which are generally considered acceptable (Peterson, 1994). Mean inter-item correlations range from .274 to .849. The mean subscale correlation is .594, with all other relationships at .40 or above (Wal-drop et al., 2010).

The TIC measure had been administered to all staff by the program director at two time points (i.e., approximately four months after the program opened and again 12 months later) during routine staff meetings. Staff members were advised to complete the measure independently with the instruction that it was being used to evaluate the program's culture and to guide management in improving employee satisfaction and client outcomes. The program director excused himself from the room while staff members individually completed the measure based upon personal experiences and did not provide identifying information to ensure anonymity. Measures were placed in an envelope and later collected by the program director.

**Individual-level data.** Data from the first 19 months of the program's operation was collected by the staff as part of standard agency protocol for monitoring individuals' behavior using an agency-developed form. Data represented the complete number (i.e., no missing data) of incidents by month for each of the seven types of behavior (aggression, self-injury, elopement, destruction, refusal of health and safety, disruptive and sexual behaviors) and the numbers of each of the six types of physical interventions<sup>1</sup> used by staff, including: arm control, escort, wrap, supine, modified, and "other." It is to be noted that "other" includes least restrictive techniques involving minimal physical contact, such as touch cues and deflection to divert someone's strike. Measures of adaptive behavior were not completed.

Scores were computed for individuals' first three months and last three months in the TIC program by averaging each type of behavior, intervention, PRN medication, and injuries. Scores using aggregated data for total reports, behavior, and interventions were similarly computed.

**Staff interviews.** Staff members were invited by the program director to participate in research interviews through electronic or verbal communication that provided a brief overview of the study. After obtaining their informed consent, the researcher conducted semi-structured interviews during the paid workday with all staff members ( $n = 17$ ) currently employed at the program and three staff members who previously worked at the program but currently worked elsewhere in the agency. The researcher provided interview participants with an incentive (i.e., \$10 gift card) and assured them that the agency would only have access to de-identified, aggregated data.

Interviews queried staff members using a guide comprised of eight probing statements/questions constructed for this study: (1) Tell me about your experiences in this day program. (2) How does your experience within the trauma-informed program compare with previous experiences? (3) Have there been any challenges with integrating TIC? (4) What is your perception of TIC? (5) How have choice, collaboration, empowerment, safety, and trust been integrated into the program? (6) What have been the strengths and weaknesses of integrating TIC? (7) Do you have any recommendations for how things could be done differently? (8) Do you think TIC has had an impact on your relationships with coworkers/supervisor or on individuals' progress? Interviews were conducted over the course of 1 month with most lasting between 15 and 45 minutes. All interviews were audio-recorded and conducted within a confidential meeting room. Interviews were transcribed and four transcriptions were randomly selected by the researcher for verification of accuracy with the audio-recording.

This study used Atlas.ti 7 to analyze staff responses to the following questions: How does your experience within the trauma-informed program compare with previous experiences? Have there been any challenges with integrating TIC? Do you think TIC has had an impact on your relationships with coworkers/supervisor or on individuals' progress? Given the preponderance of frontline staff and high-level of collaboration across positions, responses were not separated by position (e.g., nursing, management). Any specific differences that emerged between positions were noted and reflected in the findings.

The analytic process was inductive and iterative, using a constant comparative method (Glaser & Strauss, 1967). *Systematic*

*coding* (i.e., the use of a start list of codes) was used to sort responses based upon the key concept in each question of the interview guide. *Open coding* (i.e., conceptual labels) was used to identify concepts and properties of staff experiences and responses as they emerged through a line-by-line examination of the data. Data across all interviews were reread and analyzed to further develop common themes/categories. Analysis did not reach saturation given that new properties emerged from data (Charmaz, 2006). Codes were grouped based upon conceptual similarities into major categories representing broader conceptualizations and experiences (i.e., *making a difference*, *recognizing progress*, and *compromising factors*).

To support analytic rigor, memos were used to document decisions made during the data collection, coding, and analysis phases (Padgett, 2008). Credibility of findings and diversity of input was ensured as all staff within the program and several previous staff members were interviewed. Credibility was augmented by the researcher's extensive experience in the field; however, this is also a potential source of bias in the analysis process (Strauss & Corbinova, as cited in Strnadova & Evans, 2012). The researcher presented the findings to the staff at a daily meeting for validation. The staff was reminded that findings were to be representative of general experiences in the program at the time the interviews were conducted. Staff members validated the findings and noted some programmatic changes that are later discussed.

## Results

### TIC Measure

A series of between groups *t* tests were used to analyze differences between baseline and follow-up data from the TIC program given that data could not be linked to participants. Non-significant differences ( $p > .05$ ) were noted for all subscale and full scale scores as displayed in Table 2. However, except for *collaboration* which increased over time, a decrease was noted in all other subscale means. As nonsignificant differences were likely attributable to a small sample size, effect sizes which are independent of sample size were considered useful indices of the magnitude of between-group differences (Cohen, 1988). Effect sizes were computed for the subscale and full scale scores, and ranged from .06 to .59 with the largest effect size noted for trustworthiness. As such, notable fluctuations in the program's culture were observed.

### Individual-Level Data

Paired *t* tests comparing individuals' first 3-month period to their last 3-month period in the day program indicated significant decreases in: the total number of behavioral reports [ $t(16) = 2.87$ ,  $p < .05$ ], total number of behavioral incidences [ $t(16) = 2.57$ ,  $p < .05$ ] and the overall use of PRN medications [ $t(16) = 2.09$ ,  $p < .05$ ] as shown in Table 3. No significant differences were noted for most physical interventions, except for "other" [ $t(16) = -2.61$ ,  $p < .05$ ] and a trend toward significance for escorts ( $p < .10$ ). In addition, there was no significant change for staff and individual injuries [ $t(16) = 1.45$ ,  $p > .05$ ].

TABLE 2  
Comparison of baseline & follow-up means of TIC principles

Principle	Time	Mean (SD)	Effect size (d)
Choice	Baseline	4.30 (0.65)	<b>.30</b>
	Follow-up	4.11 (0.60)	
Collaboration	Baseline	3.77 (0.64)	<b>.06</b>
	Follow-up	3.81 (0.79)	
Empowerment	Baseline	4.12 (0.55)	<b>.17</b>
	Follow-up	4.03 (0.48)	
Safety	Baseline	4.06 (0.63)	<b>.19</b>
	Follow-up	3.94 (0.63)	
Trustworthiness	Baseline	4.01 (0.47)	<b>.59</b>
	Follow-up	3.63 (0.78)	
Full Scale	Baseline	4.06 (0.46)	<b>.27</b>
	Follow-up	3.92 (0.57)	

Note. Baseline (n = 13). Follow-up (n = 12). The means are the average of staff that completed the TIC questionnaire at the time it was administered. Analyses revealed nonsignificant results.

Behavioral data were discussed with staff at two daily meetings in which staff acknowledged a general decrease in behavioral episodes. Discussion revealed and analyses confirmed that an increase in physical interventions was most often associated with least restrictive techniques (i.e., “other”; touch cues and deflection). Staff noted that interventions may have been initially lower as individuals acclimated to the program and while staff observed and learned about them. As staff knowledge of behavioral patterns increased, physical interventions were more likely to occur in order to prevent damage or harm. Staff also noted that, during the time for which data was analyzed, the agency transitioned from a paper to intranet-based incident reporting system the implications of which are noted later in this article.

**Staff Interviews**

Themes from staff interviews comprised three categories *making a difference, recognizing progress and compromising factors*.

**Making a difference.** The program provided the staff with an overall satisfying work experience as well as an opportunity for “creating a better way of life” for each individual. Empowerment, ability to make choices and the openness of management as well as a profound sense of teamwork were woven throughout the interviews. The positive impact of the program extended into personal growth for some staff members and benefitted other areas of life as well (e.g., other employment). Staff noted the merit of utilizing individuals’ past experiences as a context for understanding present behavior. Despite the intensity of working in the program (i.e., incidence of challenging behaviors and physical interventions often greater than prior experiences), it was noted that, even amid interventions, staff attempted to ensure communication with, and comfort of, the individuals.

Some staff members noted the congruence of the program’s attributes with other IDD programs (e.g., respect and safety, self-advocacy, freedom from abuse); however, generally the program was seen as a shift in thinking and fundamentally different from other IDD programs that were identified as more restrictive.

*(W)alking in here you can just feel the energy ... and the comfort ... and really know that these guys are enjoying it here ...*

Notably, staff members who had been employed since the day program’s inception referenced its early negative reputation within the broader agency given the individuals’ intense behavioral

TABLE 3  
Comparison of means for individuals’ first & last 3 months

	First 3 months x̄ (SD)	Last 3 months x̄ (SD)	t
Total Reports	9.79 (5.41)	6.15 (3.09)	2.87*
Behavior	20.27 (15.93)	10.81 (6.49)	2.57*
Aggressive	6.81 (4.89)	4.25 (2.77)	2.34*
SIB	1.94 (3.97)	0.23 (0.51)	1.88†
Disruptive	6.38 (4.79)	4.67 (2.42)	1.75
Elopement	1.35 (2.78)	0.04 (0.12)	1.93†
Sexual	1.31 (3.06)	0.42 (0.54)	1.25
Refusal (Health & Safety)	0.15 (0.30)	0.08 (0.19)	0.64
Destructive	2.33 (2.94)	1.13 (1.48)	1.80†
Injury (Staff/Individual)	0.40 (0.83)	0.21 (0.42)	1.45
PRN Medications	2.50 (3.54)	1.40 (2.88)	2.09*
Physical Interventions <sup>1</sup>	2.88 (5.56)	5.60 (10.78)	-1.25
Arm Control	0.79 (2.22)	1.83 (4.87)	-0.82
Escort	0.40 (0.69)	0.90 (1.07)	-2.01†
Wrap	1.54 (2.78)	2.40 (5.26)	-0.94
Supine	0.15 (0.50)	.083 (0.15)	0.57
Modified	0.00 (0.00)	0.40 (1.27)	-1.25
Other	2.38 (3.15)	11.79 (16.18)	-2.61*

Note: †p < .10; \*p < .05; \*\*p < .01. (N = 16). <sup>1</sup> Physical interventions are taught to staff as part of a standard curriculum (i.e., Strategies for Crisis Intervention and Prevention-Revised) to intervene with challenging behaviors. Escorts involve the redirection of an individual by 1 or 2 staff through the use of arm control and body-to-body contact. Wraps involve crossing an individual’s arms across the front of his/her body which are held by staff from behind the individual. This technique is used to stop an individual from assaulting another person and can be used to remove a person from an area. Supine control involves 2 to 3 staff restricting an individual’s arms and/or legs while the individual is lying down and facing up. Modified techniques include techniques that were developed and approved for an individual due to pre existing medical or physical conditions (e.g., prior surgery). “Other” techniques are less restrictive involving minimal physical contact (e.g., touch cues and deflection to divert someone’s strike).

needs (e.g., “. . .if you go there you are going to have broken bones. . .”), as well as outside the agency given the use of a novel model (e.g., “. . .they had no faith that we were going to be successful”).

**Recognizing progress.** Staff acknowledged improvements in individuals’ communication, behavior, coping abilities, and tolerance; openness to physical contact; and happiness; the elimination of triggers; and, in the amount of communication and buy-in from state residences who had previously questioned the program’s merit. It was evident that some individuals made considerable progress:

*There was one individual that did nothing but sit and rock in a chair and look miserable. . . (And) he actually came up to one of the staff and asked to go for a walk. We were all like “huh?” . . .he had never done stuff like that before. We have had people say that they have known him for years – ‘I have never heard him speak.’*

Given the program’s progress, one staff declared: “I believe truthfully when you do things this way that is the key to the success.”

**Compromising factors.** Various factors negatively impacted opportunities for choice and access to certain choices for individuals, including: environmental conditions (e.g., the weather), severity of individuals’ disabilities, impact of behaviors (e.g., destructive behavior that may render resources unusable), and, at times, staff’s inconsistent follow-through with fulfilling individuals’ choices. In addition, despite staff camaraderie and feeling that “everyone seems to have each other’s back,” staffing shortages, aggressive behavior, and individuals in stabilization periods were seen as compromising safety for staff and individuals. Similarly, some staff members felt disempowered by an inability to consistently safeguard individuals from other individuals’ aggression, in part, influenced by foci of increasing individuals’ independence and reducing physical interventions.

Given the importance of trust, the breach of trust was most salient. Among staff members, trust was seen as being compromised by staff selectivity in communication and actions, getting “wrapped up into petty little things,” failure to adequately warn coworkers about individuals’ emerging maladaptive behaviors (e.g., being alerted of an individual’s escalation so as to have the opportunity to move into another room or otherwise protect oneself from harm), and failure to consistently follow-through with job responsibilities and expectations.

*(T)here are certain things some people say around certain people or do around certain people and they don’t do around others. So I mean trust can be built up here but trust is the hardest thing to earn from someone. . .it takes two minutes to break that trust.*

Trust was further hindered by staff adjustment to new management, any perceived lack of transparency in management’s decision-making, and a perceived disconnect from the broader

agency (e.g., bureaucracy, failure to address/fulfill site-specific needs).

## Discussion

This study provided an initial conceptualization and preliminary assessment of a single day program for individuals with IDD that ascribed to TIC. Although the program culture exhibited a strong presence of the five principles of TIC—choice, collaboration, empowerment, safety and trustworthiness—there was some fluctuation over time. The program provided an environment in which individuals demonstrated a reduction in challenging behaviors and the use of PRN medications. As such, staff perceived the individuals as enjoying a progressive increase in quality of life over the course of their participation in the program and in comparison to that observed in the institution. Similarly, staff experienced satisfaction and a sense of pride working in the TIC program.

The five principles of TIC are likely shared with non-TIC IDD services as they provide a good foundation upon which to build best practice. Some qualitative findings provide support for this, particularly *making a difference*, as staff members noted the consistency with their prior experiences in other IDD-related work. Furthermore, following a review of the agency-wide training material, the researcher found the five tenets of TIC interwoven throughout various training components (e.g., individuals’ rights), however, emphasis remained on the individuals. Wolf et al. (2014) noted that social service organizations frequently and implicitly follow many of the TIC principles without identifying them as such. Similarly, although such practices are often integrated into agency policies and programs, they are often only directed toward the individuals receiving services (Wolf et al., 2014). However, it is important to remember that, within the context of TIC, such practices are applied to staff as well. The present study demonstrated that the application of these principles with and among staff offered a considerable contribution to a satisfying work environment.

The program’s culture fluctuated from baseline to follow-up which might be expected given its differences from what the staff and individuals had previously experienced, as well as the challenges often associated with cultural change (Jones, Jimmieson, & Griffiths, 2005). Furthermore, although the TIC measure was administered at two time points, the second time was approximately one and a half years into the program’s establishment. This may be insufficient to accurately represent the program’s culture. Previous research has suggested that initial benefits might not be realized for two or more years following an initiative (Shafer & Moeller, 2012) while others have suggested that change often requires 5–10 years to become embedded in the organizational culture (Kotter, 1995). Although less time might be needed to solidify the respective program as TIC was used from the onset, the integration of TIC into already established IDD programs warrants further investigation.

The present study demonstrated significant reductions in challenging behavior and the use of PRN medications, yet a significant increase in the use of *least* restrictive techniques (e.g., deflection and touch cues) with non-significant changes in all other physical interventions. Although the program emphasized

a reduction in physical interventions and individuals were taught coping skills and guided by staff through de escalation, physical interventions were sometimes necessary as a last resort to ensure safety. However, even when physical interventions may have been required, it is evident that staff members did not resort to the most restrictive interventions, which might have been expected. The use of least restrictive interventions suggests that staff members adhered to the TIC model that emphasizes the importance of using alternative techniques to foster safety while minimizing the likelihood of (re-)traumatization. Furthermore, efforts were taken to ensure individuals' comfort during the use of physical interventions through the use of pads and pillows (if interventions resulted in restraints on the floor) as well as coaching, verbal soothing, and debriefing among staff and individuals.

As the agency in this study continued to strive for alternative techniques to physical interventions, the residual impact of such approaches to address challenging behavior was an evident challenge. The prevalent use of physical interventions and restraints in IDD services to address individuals' challenging behavior has been noted (Emerson et al., 2000) and has often been debated given a potential for injury as well as (re-)traumatization through their intrusive and disempowering nature (Wale, Belkin, & Moon, 2011). In the United States, there has been extensive legislative advocacy for the elimination of restraints, aversive interventions, and seclusion (Butler, 2014; Vaillancourt & Klotz, 2012). National policies such as the Children's Health Act of 2000 (Public Law 106-310) and initiatives such as the Alliance to Prevent Restraint, Aversive Interventions and Seclusion (TASH, 2014) have advocated for systemic change in order to protect individuals within the service delivery system. TIC is consistent with such legislative and advocacy trends, offering a systems-level approach and organizational culture reinforcing the need for safe environments and alternative approaches to the use of restraints. However, the present study suggests the formative nature of the integration of TIC within the IDD field given the greater risk of challenging behavior among individuals with IDD compared with the general population (Emerson & Hatton, 2007).

The broader TIC literature demonstrates a lack of clarity regarding best methods for evaluation and any specified relationships between the tenets of TIC and expected outcomes. However, staff interviews in the present study provide detail regarding the implications of TIC and direction for future implementation and assessment of trauma-informed models. It was evident that the impact of the trauma-informed philosophy reached beyond the immediacy of the program and extended into personal growth and development for some staff members. In addition, the staff found it beneficial to contextualize individuals' current presentations within their past trauma. Other research has noted similar findings (Giller et al., 2006).

While the present study utilized data reflecting frequencies of challenging behaviors and interventions, the findings from the qualitative analyses highlighted the importance of including measures of not only adaptive behavior but perhaps less overt behaviors (e.g., openness to physical touch) as well. In addition, staff acknowledged various factors that might compromise fidelity to a trauma-informed model. While some of the factors can be problematic across any human service organization (e.g., staffing shortages), other considerations such as those associated with a breach in trust become more significant, especially when

attending to the needs of individuals with trauma histories and significant behavioral needs. Staff members appeared to have a heightened sensitivity to the implications of trust which may have been attributed to their awareness of individuals' histories (e.g., institutionalization, intense behaviors), the novelty of the program's approach and the changes in management.

Staff acknowledged being disempowered by an inability to consistently safeguard individuals from other individuals' aggressive behavior. Notably, the program presented a considerably less restrictive and less structured environment with increased choice and freedom than the institution. Obtaining a balance of what supports and structure the individuals may have needed in relation to the ideals of TIC, and what the individuals had experienced and had been accustomed to in the institution, was at times a programmatic challenge. This suggests that, particularly with individuals who have had lengthy periods of institutionalization or experienced highly structured environments, a gradual introduction for the principles of TIC may be necessary so that they may be able to adjust to the environmental differences. Individuals with IDD may have found a sense of safety in the predictability of the structure (Carminati, Gerber, Baud, & Baud, 2007) that the institution maintained. The abrupt discontinuation of rigid routines may have resulted in individuals temporarily experiencing increased anxiety and vulnerability, which can be counterintuitive to TIC.

When the findings from the interviews were reviewed with staff, improvement between staff and management was noted, as well as the negative impact of budget cuts. At the time of this research, the state government proposed significant budget cuts to IDD services. The respective organization implemented a hiring freeze and cutbacks on fringe benefits. As stress among staff subsequently increased, they expressed concern regarding their ability to continue to meet the needs of the individuals. Although it is beyond the scope of the present article to explore the impact of cutbacks on the fidelity to TIC, the importance of considering the impact of an unsettled economy on organizational environments and innovative practices is duly noted.

This study presents an initial application, conceptualization and assessment of TIC within IDD services. As such, it represents a unique contribution to the literature. However, the research design has noteworthy limitations that subsequently compromise internal validity. Program leadership sought particular characteristics (e.g., openness to creativity) while hiring staff members. Although the organization's basic requirements for frontline staff (e.g., possessing a high school diploma or its equivalent) were adhered to, the program staff may have been qualitatively different from those employed in other IDD programs. In fact, a number of the frontline staff in the program exceeded the basic education requirements. In addition, how staff members were trained was modified during the course of the program's operations due to changes in demands and the need to continuously provide services to the individuals. Although management and staff strove to ensure fidelity to TIC, the inconsistency in approach may have compromised the program's effectiveness.

The TIC measure was administered by leadership who was known to staff. Given their level of authority, there is concern with bias among staff responses. However, with a reduction in scores at follow-up, it is unlikely that this is a significant factor. Behavior and physical intervention data were collected by

frontline staff whose primary responsibility was providing direct care to the individuals. In addition, there was a systemic change in the agency's data collection (i.e., from paper to electronic forms). With these considerations, the accuracy and reliability of the data may have been compromised. Yet, it should be noted that data collection was a standard component of staff responsibilities, not specifically initiated for this research; and individuals' behavior fluctuated overtime as might be expected. In addition, understanding behavioral change (i.e., decreased maladaptive behaviors and acquisition of adaptive behaviors) in relation to TIC requires more rigorous methodology, including contemporaneous collection of all data.

Staff responses during the interviews may have been influenced by demand characteristics (e.g., the need to provide a *right* response in order to maintain employment). However, staff members were aware that the researcher was independent of the agency and were assured that only de identified, aggregated responses would be shared with the agency. In addition, the lack of saturation in qualitative findings presents an additional limitation, suggesting an incomplete conceptualization of staff experiences (Walker, 2012). Yet, such limitations can perhaps be understood within the respective context (i.e., a dearth of prior research exploring staff perceptions and experiences with TIC, as well as the preliminary nature of this study and the integration of TIC with IDD services).

Despite the centrality of trauma to TIC, staff demonstrated marginal knowledge of individuals' specific trauma histories which was typically retrieved from documentations and discussion with others (e.g., state employees and family members). The researcher reviewed historic paperwork (e.g., psychological reports) that frequently offered non-descript information (e.g., "grief from death of mom," "unacceptably high percentile for interventions," "lived in developmental center most of life," "abandoned at age 2"). In progressing toward a more trauma-informed approach, there remains a need for increased sensitivity in documentation and screening at program intake.

Although the emergent strengths of the TIC program are evident, it is difficult to determine if individuals' progress was attributable to the TIC program, higher staffing ratio, treatment other than institution-based care, or some combination thereof. Furthermore, it is impossible to determine the extent to which differences in approach between the TIC program and residential placements impacted individuals' progress. However, discussion with staff revealed that at times this was a point of contention and a challenge for some individuals. Further, although individuals were not queried regarding their experiences in the program due to verbal communication deficits, previous research has exemplified the integral nature of individuals' involvement in the assessment of their experiences and quality of life (Bonham et al., 2004).

In addition, the study lacked diversity (e.g., race and age) among staff members and individuals. It is unclear how such variables might influence TIC. In addition, there is a lack of specificity regarding the length of time required to fully exemplify a trauma-informed model. Issues with staff turnover further compound such concerns.

Future studies could improve on the present research in several ways. The use of a larger sample size would increase statistical power while the use of a control group would increase the

ability to determine causality. Similarly, a more longitudinal design would provide the opportunity to evaluate individuals' progress overtime as well as environmental/cultural stability and the long-term implications for staff (e.g., retention). Given that individuals had long histories of institutionalization, this sample and its progress may be atypical. As such, future studies should consider the use of TIC with individuals who may be more representative of the general IDD population. In addition, efforts to measure adaptive behavior and quality of life among individuals as well as fidelity to a TIC approach, and efforts to determine the association between organizational culture and restraint use ought to be included in future initiatives.

TIC provides a model and philosophy for service delivery which is readily adaptable to different populations, organizations and types of services (Butler et al., 2011). Although this study was limited to a single day program within one organization, it provides preliminary evidence and direction for the integration and evaluation of TIC across the range of IDD services including residential and vocational programs. Through a multi pronged approach of inquiry, both quantitative and qualitative data within this study suggest individual progress and staff satisfaction. However, there is a particular need for increased consideration regarding the use of physical interventions. Despite this study's limitations, it provides a preliminary example of, and an opportunity for increased dialogue of, TIC and IDD services. It extends an initiative that began in the non-IDD sector of service delivery to the IDD population which has its own history of distinct vulnerabilities and needs. As quality of life for individuals continues to be at the forefront of service delivery, and as organizations and staff are frequently challenged to do more with less, TIC provides an innovative framework upon which to build.

#### Note

<sup>1</sup>Physical interventions are taught to staff as part of a standard curriculum (i.e., Strategies for Crisis Intervention and Prevention-Revised) to intervene with challenging behaviors. Escorts involve the redirection of an individual by 1 or 2 staff through the use of arm control and body-to-body contact. Wraps involve crossing an individual's arms across the front of his/her body which are held by staff from behind the individual. This technique is used to stop an individual from assaulting another person and can be used to remove a person from an area. Supine control involves 2 to 3 staff restricting an individual's arms and/or legs while the individual is lying down and facing up. Modified techniques include techniques that were developed and approved for an individual due to pre-existing medical or physical conditions (e.g., prior surgery). "Other" techniques are less restrictive involving minimal physical contact (e.g., touch cues and deflection to divert someone's strike).

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