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Development and Psychometric Evaluation of the Attitudes Related to Trauma-Informed Care (ARTIC) Scale

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Abstract Due to its high prevalence and associated risk of poor academic and health outcomes, adverse childhood experiences and trauma are considered a public health epidemic. In response, there has been a surge of initiatives aimed at helping institutions and individuals serving people with histories of trauma to adopt a trauma-informed care (TIC) approach. However, significant roadblocks to TIC research and practice include an unclear operational definition of TIC and the shortage of psychometrically robust instruments to evaluate TIC. To close these gaps, we used a partnership-based approach to develop a direct, efficient, and cost-effective measure of TIC focused on evaluating the TIC-relevant attitudes of staff working in schools, human service systems, and other settings serving individuals with histories of trauma. We then conducted a psychometric evaluation of the resultant measure, the Attitudes Related to Trauma-Informed Care (ARTIC) Scale, with a sample of 760 staff employed in education, human services, and health care. Study findings established support for the psychometric properties of the measure. Specifically, confirmatory factor analysis indicated that the seven-factor structure fit the data well. Scores on the ARTIC demonstrated strong internal consistency and test–retest reliability over 6 months for the 45-item and 35-item composites, the seven subscales, and the 10-item short form. Construct and criterion-related validity were supported by correlations with indicators of familiarity with TIC and staff- and system-level indicators of TIC implementation. The current study has implications for accelerating research on TIC and facilitating data-based decision making related to the adoption and implementation of TIC.

Keywords Trauma · Adverse childhood experiences · Trauma-informed care · Instrument development

Introduction

The experience of adverse childhood experiences (ACEs) and trauma is so pervasive that it has been called a public health epidemic (Women and Trauma Federal Partners Committee & United States of America, 2013). Nearly two-thirds of the general population reports experiencing at least one ACE, such as loss of a parent, abuse, or domestic violence (Centers for Disease Control and Prevention [CDC], 2010; Felitti et al., 1998). Members of marginalized populations, including low-income and ethnic minority youth, are at even greater risk of experiencing ACEs (Adams, 2010; Alim et al., 2006; Lipschitz, Winegar, Hartnick, Foote, & Southwick, 1999; Sochting, Corrado, Cohen, Ley, & Brasfield, 2007). The experience of ACEs is associated with long-lasting physical consequences for the brain and body (Drury et al., 2012; Teicher et al., 2003), as well as social, emotional, and behavioral consequences such as cognitive impairments, difficulties with executive functioning, impulse control, emotion regulation, and low self-esteem (Alim et al., 2006; Copeland, Keeler, Angold, & Costello, 2007; Giaconia et al., 1995). Though the development of full-blown post-traumatic stress disorder

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(PTSD) in children and adults is rare (e.g., epidemiological data suggest that only 0.5–14.5 % of children who have experienced a traumatic event develop PTSD; Copeland et al., 2007; Giaconia et al., 1995; Johnson & Thompson, 2008; Zelechoski et al., 2013), the experience of ACEs has serious negative implications for school and work functioning (Overstreet & Mathews, 2011; Rossen & Hull, 2013). For example, Burke, Hellman, Scott, Weems, and Carrion (2011) studied 701 youth living in a low-income urban environment and found that only 3 % who experienced zero ACEs displayed a learning or behavior problem, compared to 20.7 % with one to three ACEs and 51.2 % with four or more ACEs.

The daily challenges that result from ACEs can contribute to a downward spiral that includes additional negative and potentially retraumatizing experiences, such as being removed from class, suspended, expelled, and, in extreme cases, restrained or secluded (Hammer, Springer, Beck, Menditto, & Coleman, 2011). Further, individuals who have experienced one ACE or trauma are at increased risk for experiencing multiple ACEs or traumas, which are thought to foster the adoption of health-risk behaviors, such as substance abuse and risky sexual behavior (CDC, 2010; Felitti et al., 1998; van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). Together, this research demonstrates a picture of cascading developmental risk that has been shown to exponentially increase the likelihood of high school dropout, chronic physical health problems, mental illness, and premature death (Felitti et al., 1998; Porche, Fortuna, Lin, & Alegria, 2011).

Trauma-Informed Systems

Given the prevalence and public health impact of ACEs and trauma, multiple systems are grappling with how to best address the effects of traumatic stress in the students and clients they serve. Trauma-informed care (TIC) is a term coined in the 1990s to describe service delivery that integrates an understanding of the pervasive biological, psychological, and social sequelae of ACEs and trauma with the ultimate aim of ameliorating, rather than exacerbating, their effects (Harris & Fallot, 2001; Jennings, 2007; Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). Since the mid-1990s, and especially in the last 5 years, there has been a call for service systems to implement TIC, including educational, human services, health care, child welfare, law enforcement, and adult and juvenile corrections systems (Burch, Naser, & Overstreet, 2010; Jennings, 2007; Ko et al., 2008; Women and Trauma Federal Partners Committee & United States of America, 2013). Federal agencies (e.g., CDC, SAMHSA, U.S. Department of Health and Human Services), major philanthropic organizations (e.g., Robert Wood Johnson

Foundation, the California Endowment), universities (e.g., Harvard University, Drexel University, University of California, Los Angeles), managed care organizations (e.g., Kaiser Permanente), and media outlets (e.g., Atlantic, National Public Radio, New York Times) have focused the spotlight on the ways in which ACEs and trauma shape health across the life span and have pointed to the need for trauma-informed service systems. However, with few exceptions, these service systems have struggled to translate the research on ACEs and trauma into on-the-ground policies, procedures, and practices (e.g., Sprague, 2008).

Trauma-informed systems have the potential to help individuals affected by ACEs and trauma to feel safe, recover from trauma, and regain developmental trajectories (SAMHSA, 2014). TIC has recently begun to be applied to schools (Cole et al., 2005; Cole, Eisner, Gregory, & Ristuccia, 2013; Downey, 2007), and findings suggest that trauma-informed schools can be associated with reductions in suspensions, expulsions, and written referrals (Stevens, 2012). Although little has been published on trauma-informed schools, more is known about TIC implementation with service providers in human service settings. Specifically, TIC has been demonstrated to build knowledge, change attitudes, and develop practices favorable to TIC (Brown, Baker, & Wilcox, 2012; Green et al., 2015), including reduced use of restraint and seclusion (Azeem, Aujla, Rammerth, Binsfeld, & Jones, 2011; Chandler, 2008; Hodgdon, Kinniburgh, Gabowitz, Blaustein, & Spinazzola, 2013). Clients in trauma-informed systems have been shown to have greater symptom reduction, reduced time in treatment prior to discharge, improved rates of discharge to a lower level of care, and improved mental health and substance abuse outcomes (Greenwald et al., 2012; Hodgdon et al., 2013; Morrissey et al., 2005). In the only controlled study focused on youth thus far, implementation of the Sanctuary Model in residential treatment was associated with more autonomous, supportive, and safe treatment environments and greater client gains in coping skills and feelings of control, in comparison with treatment as usual (Rivard, Bloom, McCorkle, & Abramovitz, 2005). Finally, trauma-informed related change efforts, such as restraint and seclusion reduction, have also been shown to save money (Lebel, 2011). In sum, even given the limitations of the current research base on TIC, there is growing evidence to suggest that it holds considerable promise to address the public health problem associated with ACEs and trauma within both schools and treatment settings.

Barriers to Implementing Trauma-Informed Care

Unfortunately, several critical barriers remain that block the forward progression of research, practice, and policy

related to TIC. Core principles of TIC such as those posited by Harris and Fallot (2001) include integrating trauma theory into explanations of stress, psychopathology, and coping; establishing core values of safety, trustworthiness, choice, collaboration, and empowerment; avoiding approaches that are counter to the principles of TIC; and approaching education or service provision in a way that facilitates the building of crossover skills (e.g., emotion regulation) and the provision of or linkage with ancillary services (e.g., safe housing). In current writing and thinking, these foundational principles are often blended with TIC implementation drivers (e.g., administrative commitment to change, professional trauma training and workforce development, hiring practices) and TIC practice elements (e.g., trauma screening, TIC-informed policies and procedures, restraint and seclusion reduction, trauma-specific treatments, and strength-based, relational behavior management) (Azeem et al., 2011; Brown et al., 2012; Cohen, Berliner, & Mannarino, 2010; Cole et al., 2013; Fixsen, Blase, Naoom, & Wallace, 2009; Harris & Fallot, 2001; Ko et al., 2008). As a result, although the foundational definition of TIC is consistent throughout the literature, its operationalization varies considerably. For example, our literature review revealed 19 recent publications espousing variations of the foundational TIC framework. The number of principles, implementation drivers, and practice elements discussed within any given publication ranged from 3 to 16. In addition, with few exceptions (e.g., Capezza & Najavits, 2012; Chandler, 2008; Hummer, Dollard, Robst, & Armstrong, 2010; Moses, Reed, Mazelis, & D'Ambrosio, 2003), the vast majority of these publications were literature syntheses, white papers, or theoretical and conceptual pieces, rather than empirical studies.

The field is primed to shift from the rich, if diverse, foundational theoretical and conceptual thinking to the data-driven analysis of TIC and its effects. However, this forward movement is blocked by the absence of psychometrically strong instruments to evaluate TIC. Within the limited empirical work on TIC, the effects of TIC implementation are typically measured via client-reported outcomes such as symptom indices (Morrissey et al., 2005); program-level metrics such as suspension and expulsion reduction (Stevens, 2012); and organizational-level characteristics such as treatment environment (Rivard et al., 2005). Though these are important outcomes, they are costly and time-consuming to collect and evaluate. Unfortunately, because so many potential variables can influence these relatively distal metrics, it is also difficult to know whether and how TIC staff training in particular relates to the change. Further, schools and organizations implementing TIC often report qualitative and anecdotal evidence of culture change but struggle to find inexpensive

and practical tools to quantitatively capture this change. Thus, there is a clear need for reliable, valid, and cost-effective tools of proximal TIC outcomes.

Conceptual Model of TIC Measurement

The extent to which a school or delivery system is trauma-informed depends in large part on the moment-to-moment, day-to-day behavior of its personnel (Metz, Blase, & Bowie, 2007). Attitudes more or less favorable to TIC are thought to be one important driver of this behavior. Based on foundational work on professional training, behavior change, and program implementation (Ajzen, 1991; Fixsen et al., 2009; Kirkpatrick, 1967), TIC implementation has the potential to lead to service providers' behavior change through their knowledge and attitude change, as long as the overarching system is supportive and facilitative of TIC. Just as attitude change has the potential to facilitate behavior change, staff attitudes can also act as a roadblock to the adoption of new programs (Baker, Kupersmidt, Voegler-Lee, Arnold, & Willoughby, 2010). Although staff attitudes are postulated to play a central role in system change toward TIC, we only located two measures that evaluate these attitudes. Colton and Xiong (2010) developed a measure to evaluate staff perceptions of organizational change consistent with TIC, including nine dichotomous items on attitudes. However, these items are limited by the dichotomous response options and are not distinct from the rest of the 41-item scale, which suffers from relatively low internal consistency. The other measure we located was the 19-item measure we developed as a precursor to the ARTIC, which will be discussed later (Brown et al., 2012). Both of these measures are limited in an important way: they do not fully and systematically evaluate the range of constructs relevant to TIC attitudes.

In sum, a direct, efficient, and cost-effective measure of attitudes relevant to TIC for staff working in schools, human service systems, and other settings serving individuals with histories of ACEs and trauma is sorely needed. In a sociopolitical context that prizes data-based decision making, multiple stakeholders—researchers, practitioners, policymakers, and consumers—lack the tools they need to evaluate TIC. In line with the call for progress monitoring, quality assurance, and rigorous evaluation of TIC (SAMHSA, 2014), which is prerequisite to its sustained adoption (Ko et al., 2008), the current study has two primary goals. First, we sought to develop the Attitudes Related to Trauma-Informed Care (ARTIC) Scale, a measure that would (a) reflect and synthesize the current theoretical and empirical knowledge related to TIC, (b) assess service providers' attitudes relevant to TIC directly and specifically, and (c) still be easily and inexpensively administered and scored by diverse institutions such as

schools, human service agencies, and healthcare organizations. Our second goal was to examine the factor structure and conduct a psychometric evaluation of the measure, including a preliminary assessment of reliability and validity.

Methods

Development of the ARTIC

The ARTIC was based on an earlier measure, which was originally developed in a community context in order to meet the program evaluation needs of the Risking Connection® (RC) staff trauma training model (Brown et al., 2012; Saakvitne, Gamble, Pearlman, & Tabor Lev, 2001). The 19-item precursor measure was developed in the early 2000s by blending key stakeholder feedback, expert opinions, and the existing literature on TIC. This precursor instrument was sensitive to attitude change associated with formal trauma training (Brown et al., 2012). However, it was limited in that it included only one general factor. In order to address the shortcomings of the precursor measure, we undertook an extensive mixed methods process utilizing a community-based participatory research approach (Hausman et al., 2013), such that content experts are integral members of the research team and co-authors of this manuscript. Our team included experts in TIC, trauma and stress, school-based mental health, community mental health, and study design and methodology. Our mixed methods item-redevelopment process synthesized quantitative data from ongoing RC program evaluation, qualitative data from participant observations conducted within sites implementing TIC, and findings from a cognitive interviewing process with service providers. Given the increased attention focused on TIC in the last decade, our item-redevelopment process also included a fully updated review of the theoretical, empirical, and measurement literatures relevant to TIC, with an emphasis on those works considered to be particularly foundational to the field.

The resultant measure, the ARTIC, included eight subscales consisting of 75 potential items. These eight subscales, derived directly from our extensive mixed methods item-redevelopment process, were intended to fully represent the most central components of attitudes supportive (or unsupportive) of TIC implementation. These subscales included attitudes about (a) underlying causes of problem behavior and symptoms, (b) the impact of trauma, (c) responses to problem behavior and symptoms, (d) on-the-job behavior, (e) self-efficacy at work, (f) reactions to the work, (g) personal support of TIC, and (h) system-wide support for TIC. Items were written to characterize a TIC-favorable attitude and were then paired with the opposite

attitude. As such, all items utilize a seven-point bipolar Likert scale. For example, the favorable attitude for one item is "the students I work with could act better if they really wanted to," while its opposite is "the students I work with are doing the best they can with the skills they have." This format allows individuals to characterize their attitudes on a bipolar spectrum and reduces the risk of socially desirable responses (i.e., rating both TIC-indicated and TIC-contraindicated items highly when they are presented as separate, unipolar items) (Woods & Hampson, 2005). Finally, item wording was modified slightly such that it is appropriate for both schools and health care/human services; the two versions differ only in surface-level language (e.g., "student" vs. "client").

We created the ARTIC to have six core subscales related to attitudes relevant to TIC implementation (i.e., subscales a–f) and two supplemental subscales tapping into support of TIC adoption (i.e., subscales g–h). Though the constructs of support are central to TIC implementation, our content experts thought it was critical that these subscales could be removed from the ARTIC when administering it to individuals who were completely unfamiliar with TIC, and who would therefore be incapable of responding to the items. The ARTIC was also developed to have a short form, created from each of the core subscales, to increase the feasibility of its administration. The long form, the long form without the supplementary subscales, and the short form were each intended to have overall summary scores.

Participants

The ARTIC was evaluated within a sample of 760 service providers, including 595 who worked in human services, community-based mental health, or health care (78 %) and a targeted subsample of 165 who worked in schools (22 %). Given the recent emergence of trauma-sensitive schools and clear applications of TIC to educational settings (Cole et al., 2005, 2013), school-based staff were purposively recruited. Individuals who were at least 18 years of age and who worked in one of the identified fields were eligible to participate in this study. Participants were 83 % female, and 92 % identified as white while 95 % identified as not Hispanic. The sample was highly educated, with 96 % of the participants reporting that they completed college, some graduate school, or graduate school. The average annual income was $50,000. Overall, participants reported being fairly early in their careers, having worked an average of 2.91 (SD = 1.48) years in their current job, 2.92 (SD = 1.47) years with their current organization, and 4.11 (SD = 1.59) years in their field. Job roles varied widely, with administrator (21 %), primary therapist (16 %), direct care staff (15 %), and direct care

Table 1 Participant demographics

Demographic characteristic	n	%
Job setting		
Human services/health care	595	78.3
Education	165	21.7
Gender		
Male	128	16.8
Female	632	83.2
Race/ethnicity		
White and non-Latino	691	91.2
Black or African American	36	4.7
Asian	12	1.6
American Indian or Alaska native	9	1.2
Biracial or multiracial	10	1.3
Hispanic or Latino of any race	39	5.1
Education		
Completed high school or GED	7	0.9
Some college	20	2.6
Completed college	116	15.3
Some graduate school	68	8.9
Completed graduate school	549	72.2
Annual income		
<$20,000	21	2.8
$20,000–$40,000	175	23.0
$40,000–$60,000	260	34.2
$60,000–$80,000	133	17.5
$80,000–$100,000	86	11.3
$100,000–$120,000	45	5.9
>$120,000	39	5.1
Years in job role	2.92	1.48
Years with organization	2.93	1.47
Years in field	4.11	1.59
Face-to-face contact with students/clients in job role	695	91.4
Previously trained in TIC		
Yes	435	57.2
No	324	42.6

$N = 760$; however, responses were missing for race ($n = 2$), ethnicity ($n = 1$), and previous training in TIC ($n = 1$)

supervisor (11 %) being most common. Participants reported working in diverse job settings, including community organizations (28 %), schools (12 %), and mental health clinics (10 %), and within a variety of administrative systems, including family/social services (20 %), nonprofits (18 %), the government (14 %), hospitals/medical centers (10 %), and schools/charter management organizations (10 %). The majority of participants (91 %) reported that their jobs included at least some opportunity for face-to-face contact with students/clients. A little over half of participants (57 %) reported having previously participated in formal TIC training (e.g., RC, Advocates

for Children, Sanctuary). Most participants originated from the U.S. (97 %), though a small number originated from Australia, Canada, Israel, and New Zealand. Within the USA, participants originated from 41 US states, the most common being Wisconsin (20 %), Connecticut (11 %), and Texas (10 %). See Table 1 for participant demographics.

Procedure

The study was completed by 96 % of participants online via an anonymous survey supported by Qualtrics, with the remainder completing a paper copy of the survey. Those who completed the survey via the online platform were recruited to participate via invitations distributed through e-mails, professional listservs, websites, and social media sites. The most common paths to study participation were links within e-mails (64 %) and postings within listservs (17 %). Participants who provided their e-mail addresses were eligible to be entered into a raffle for one of four $25 gift cards upon completion of the study. In addition, a small number of participants ($n = 30$; 4 %) completed an identical paper copy of the survey in person during a professional development seminar. These participants were paid $10 for their time. For all participants, the survey took 15–25 min to complete. All procedures performed were in accordance with the ethical standards of the institutional research committee and with the Declaration of Helsinki and its later amendments, and all participants provided informed consent.

Participants who completed the online survey were eligible to participate in the test–retest reliability phase of the study. All participants who provided their e-mail addresses were invited to complete a second survey consisting only of two participant identifiers and the potential items of the ARTIC. The test–retest reliability phase occurred on average 133.62 (SD = 31.68) days after completion of the original survey. Of the original sample, 141 participated in the test–retest phase. In order to best evaluate temporal consistency, the test–retest sample was grouped into three subsamples: those who completed the test–retest survey 0–120 days ($n = 33$), 121–150 days ($n = 46$), and 151–180 days ($n = 62$) after they completed the original survey.

Measures

Participants completed a 133-item questionnaire. First, after reviewing the informed consent document, they completed a demographic information sheet with 17 items. This sheet included the two participant identifiers used for test–retest matching and confirmation that the participant had selected the survey version using the wording most

relevant to their field (e.g., "student" vs. "client"). Demographic information collected included gender, race/ethnicity based on the 2010 US Census categories, highest level of education completed, income, country, and US state of residence if applicable. Participants also reported on their current job and employment history. Participants provided feedback about the survey at the end by answering two questions.

ARTIC

Participants responded to the 75 potential items of the ARTIC, presented in random order and with alternate items presented in reverse format.

Familiarity with TIC and Staff- and System-Level Indicators of TIC

Participants responded to three sets of items developed to demonstrate preliminary validity of the ARTIC scores. First, participants reported on their familiarity with TIC by responding to three single-item questions (e.g., "How familiar are you with TIC?") and on the degree of TIC implementation they experienced in the context of their current job (i.e., 13 characteristics of a system implementing TIC were listed and rated yes/no; affirmative responses were summed creating one item with a theoretical range of 0–13). Second, participants responded to 25 single-item staff-level indicators of TIC implementation (e.g., "How often do you see students' behavior as having meaning and/or resulting from students' experiences of adverse events?"), which were rated from 0 (never/not at all) to 10 (all the time/very much). Third, participants provided responses to seven single-item system-level indicators of TIC implementation (e.g., "Compared to similar job settings, how much is your job setting characterized by a punitive and coercive environment?"), which were rated from 0 (much worse) to 10 (much better). Participants were asked to think of the last 2 months at their current job as they responded to these staff- and system-level indicators. See the results section for a complete listing. Single-item measures have been demonstrated to provide valuable information during measure development while maintaining brevity and enhancing participant retention (Donnellan, Oswald, Baird, & Lucas, 2006; Hoerger, 2010).

Validity of Responding

Five questions gauging the validity of responding were integrated throughout the survey. Participants ($n = 35$)

who did not fully complete the 75 potential items of the ARTIC or whose responses indicated carelessness or invalid responding were trimmed from the dataset (final $N = 760$).

Results

All analyses were conducted using SPSS Version 22 and Mplus Version 7 (Muthén & Muthén, 2010). First, we conducted an item analysis. The 75 potential ARTIC items, nested within the eight subscales, were evaluated using an iterative process based on the following guiding principles: items should (a) demonstrate convergent validity by correlating with their own subscale in the context of corrected item-total correlations at a level of .30 or greater and correlating with the overall scale at a level of .30 or greater; (b) demonstrate discriminant validity by correlating at least .10 less with other subscales than with their own subscale; and (c) be associated with relatively high variance and means relatively closer to the center of the range of possible scores (DeVellis, 2012). The subscales and items produced by this iterative process were reviewed by the content experts on the team to ensure that they still represented the central constructs most relevant to TIC.

Of the eight subscales and 75 candidate items, one subscale (i.e., the impact of trauma) and 30 items were eliminated during the item analysis phase. Three items were moved from their original subscale to a subscale demonstrating better fit; in each case, the wording of the item was closely evaluated to confirm that the move was appropriate. These changes resulted in the present version of the scale, the ARTIC-45, which includes 45 items and seven subscales (five core and two supplementary subscales). Subscales are (a) underlying causes of problem behavior and symptoms, (b) responses to problem behavior and symptoms, (c) on-the-job behavior, (d) self-efficacy at work, (e) reactions to the work, (f) personal support of TIC, and (g) system-wide support for TIC. Each of the five core subscales has seven items; each of the two supplementary subscales has five items. In line with our analytic plan, a 35-item form excluding the supplementary subscales and a 10-item short form including content from the core subscales were also created, respectively, called the ARTIC-35 and the ARTIC-10. All items are written at a sixth grade reading level as indicated by the Flesch-Kincaid Grade Level test. For a summary of the subscales and items, see Table 2. When delivered in practice, the items are randomized and indicated items are reverse scored.

Table 2 Attitudes Related to Trauma-Informed Care (ARTIC) domain names, descriptions, and example items

Subscale name	Description	Example items	
		TIC-unfavorable attitude	TIC-favorable attitude
Underlying causes of problem behavior and symptoms	Emphasizes internal and fixed versus external and malleable	Students' learning and behavior problems are rooted in their behavioral or mental health condition	Students' learning and behavior problems are rooted in their history of difficult life events
Responses to problem behavior and symptoms	Emphasizes rules, consequences, and eliminating problem behaviors versus flexibility, feeling safe, and building healthy relationships	It's best to be very strict at first so students learn they can't take advantage of me	It's best to treat students with respect and kindness from the start so they know I care
On-the-job behavior	Endorses control-focused behaviors versus empathy-focused behaviors	It reflects badly on me if my students are very upset	Being very upset is normal for many of the students I serve
Self-efficacy at work	Endorses feeling unable to meet the demands of working with a traumatized population versus feeling able to meet the demands	I don't have what it takes to help my students	I have what it takes to help my students
Reactions to the work	Endorses underappreciating the effects of vicarious traumatization and coping by ignoring versus appreciating the effects of vicarious traumatization and coping through seeking support	Sometimes I think I'm too sensitive to do this kind of work	The fact that I'm impacted by my work means that I care
Personal support of TIC[a]	Reports concerns about implementing TIC versus being supportive of implementing TIC	I am concerned that I cannot/will not be able to carry out all my responsibilities with respect to the trauma-informed care approach	I am optimistic that I can/will be able to carry out all my responsibilities with respect to the trauma-informed care approach
System-wide support for TIC[a]	Reports feeling supported by colleagues, supervisors, and the administration to implement TIC versus not feeling supported	I am concerned that I do not/will not have enough support to implement the trauma-informed care approach	I think I do/will have enough support to implement the trauma-informed care approach

On the actual scale, the choices are preceded by the leader "I believe that…" Item wording varies slightly between education and human services/healthcare versions (e.g., "student" vs. "client"). Information on acquiring the ARTIC including scoring directions can be found at www.traumaticstressinstitute.org

[a] Indicates supplementary scale

Evaluating the Factor Structure of the ARTIC

Second, we examined the factor structure of the resultant measure with the entire sample using confirmatory factor analysis (CFA). Model fit was examined using maximum likelihood parameter estimates with standard errors that are robust to non-normality. To correctly characterize model fit, it is recommended that researchers report several fit statistics including Chi-square (X^2), ratio of Chi-square to degrees of freedom (X^2/df), the root-mean-square error of approximation (RMSEA) with confidence intervals, the standardized root mean residual (SRMR), the comparative fit index (CFI), and the non-normed fit index (NNFI) (Hooper, Coughlan, & Mullen, 2008). While X^2 is not a useful statistic for evaluating model fit with large samples, the following cutoff scores indicate good model fit: $X^2/df = 2.0$–5.0, RMSEA $< .06$ [$<.05$, $<.08$], SRMR $< .08$, CFI $> .90$, and NNFI $> .80$ (Hooper et al., 2008). Our hypothesized seven-factor model fit the data well; Satorra-Bentler scaled $X^2(919) = 1867.77$, $p < .001$, $X^2/df = 2.03$, RMSEA $= .037$ [.034, .039], SRMR $= .049$, CFI $= .894$, and NNFI $= .885$. Thus, the CFA yielded support for the seven subscale solution. For a diagram, see Fig. 1. The model fit of the ARTIC-35, including only the five core subscales, was also supported; Satorra-Bentler scaled $X^2(548) = 993.98$, $p < .001$, $X^2/df = 1.81$, RMSEA $= .033$ [.029, .036], SRMR $= .042$, CFI $= .922$, and NNFI $= .915$. Alternative six-factor models were fit based on the findings of the CFA; the fewer-factor models were rejected because they provided no appreciable improvement in fit over the seven-factor, theoretically derived model.

Reliability

Third, we examined the reliability of ARTIC scores. Scale means, standard deviations, internal consistencies, and intercorrelations are shown in Table 3. Internal reliabilities
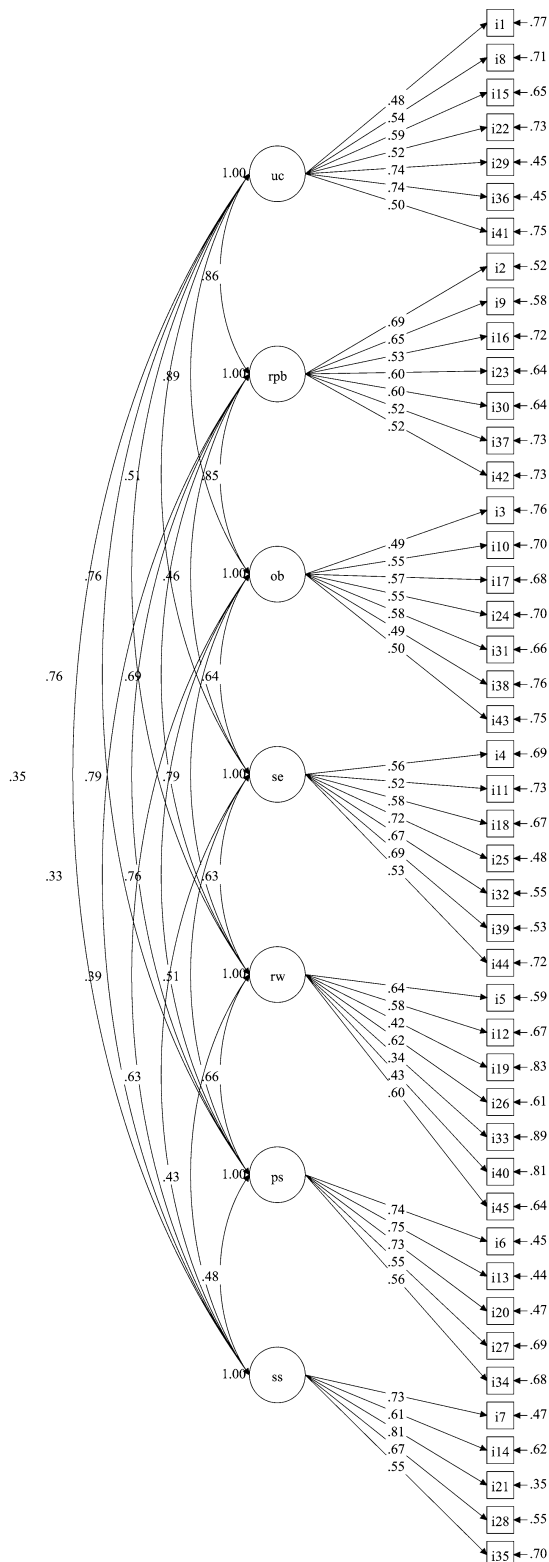
◄ **Fig. 1** Confirmatory factor analysis of the ARTIC with standardized factor loadings $(N = 760)$; Satorra-Bentler scaled $X^2(919) = 1867.77$, $p < .001$, $X^2/df = 2.03$, RMSEA = .037 [.034, .039], SRMR = .049, CFI = .894, and NNFI = .885. Error terms between within-subscale item pairs 4–11, 4–44, 14–28, 18–39, and 27–34 were allowed to covary. *UC* underlying causes of problem behavior, *RPB* responses to problem behavior and symptoms, *OB* on-the-job behavior, *SE* self-efficacy at work, *RW* reactions to the work, *PS* personal support of TIC, and *SS* system-wide support for TIC

were calculated using Cronbach's alpha. Internal consistency reliability was excellent for the ARTIC-45 ($\alpha = .93$) and ARTIC-35 ($\alpha = .91$) composites and very good for the ARTIC-10 abbreviated scale ($\alpha = .82$), providing evidence that all three forms produce reliable measures of individual differences in attitudes relevant to TIC. Subscale alphas ranged from respectable to very good (DeVellis, 2012), with the lowest reliability associated with "reactions to the work" ($\alpha = .71$) and the highest with "system-wide support for TIC" ($\alpha = .81$). As expected, the seven domains shared some overlapping variance but also account for unique aspects of TIC attitudes, with the lowest correlation between the subscales "responses to problem behavior and symptoms" and "system-wide support for TIC" ($r = .25$) and the highest correlation being between "underlying causes of problem behavior and symptoms" and "responses to problem behavior and symptoms" ($r = .69$).

Test–retest reliabilities were calculated using Pearson's product moment correlations. Test–retest correlations were strong, with correlations of .84 at ≤120 days, .80 at 121–150 days, and .76 at 151–180 days for the ARTIC-45. The ARTIC-35 and ARTIC-10 also demonstrated good temporal consistency, with correlations of .84 and .82, respectively, at ≤120 days, .75 and .73 at 121–150 days, and .77 and .65 at 151–180 days. ARTIC subscales demonstrated similarly strong test–retest reliability, for the most part ranging from .49 to .87, with the average test–retest correlation being .73 at ≤120 days, .69 at 121–150 days, and .65 at 151–180 days. Test–retest reliabilities are shown in Table 3.

Validity

Lastly, validity indicators were analyzed using Pearson's product moment correlations to provide preliminary support for construct and criterion-related validity. Initial validity evidence for ARTIC scores is presented in Table 4. The composite scores varied slightly by demographic characteristic, such that female, racial/ethnic majority, better educated, and more experienced participants and those participants who had less face-to-face contact with students/clients had ARTIC scores more favorable to TIC. In addition, individuals working in human services and

Table 3 ARTIC scale score properties

Scale	M	SD	Test–retest			1	2	3	4	5	6	7	8	9	10
			≤120 days	121–150 days	151–180 days										
Underlying causes	39.44	5.49	.73	.67	.72	(.78)									
Responses to problem behavior	42.22	5.12	.87	.74	.79	.69	(.76)								
On-the-job behavior	43.03	4.24	.59	.59	.66	.68	.63	(.72)							
Self-efficacy at work	42.11	5.21	.66	.70	.75	.41	.36	.47	(.79)						
Reactions to the work	41.51	4.86	.68	.62	.49	.57	.52	.56	.49	(.71)					
Personal support of TIC[a]	30.16	4.30	.81	.75	.63	.58	.58	.57	.50	.51	(.80)				
System-wide support for TIC[a]	26.91	6.00	.74	.74	.51	.27	.25	.30	.54	.32	.45	(.81)			
ARTIC-45	265.38	26.21	.84	.80	.76	.80	.76	.79	.73	.75	.79	.63	(.93)		
ARTIC-35	208.31	19.75	.84	.75	.77	.85	.81	.83	.69	.80	.69	.43	.97	(.91)	
ARTIC-10	60.70	44.40	.82	.73	.65	.79	.76	.78	.64	.74	.64	.40	.90	.93	(.82)

$N = 760$ for all information presented except TRT, for which $n_{TRT\ 0–120\ days} = 33$; $n_{TRT\ 121–150\ days} = 46$; $n_{TRT\ 151–180\ days} = 62$. Coefficient alphas are indicated in parentheses

[a] Indicates supplementary scale

health care had scores more favorable to TIC than those working in schools. ARTIC-45 composite scores were strongly related to personal familiarity with TIC ($r = .34$–.45) and most staff-level indicators of TIC implementation ($r = .30$–.59). The ARTIC-35 and ARTIC-10 showed similar patterns. However, neither the ARTIC-35 nor the ARTIC-10 were related to feelings of support at the workplace; this is unsurprising given that they do not include items from the personal and system-wide support supplementary subscales.

Patterns of correlations across the domains of the ARTIC also varied in theoretically meaningful ways. The "underlying causes of behavior problems and symptoms," "responses to problem behavior and symptoms," and "on-the-job behavior" domains were strongly correlated with personal familiarity with TIC and staff-level TIC indicators such as having a positive attitude about TIC. The "on-the-job behavior" domain was also related to indicators of day-to-day behaviors of service providers (e.g., asking students about their trauma histories). The "self-efficacy at work" domain was associated with staff-level TIC indicators, job satisfaction, feeling supported at work, and less burnout. The "reactions to the work" domain was associated with staff-level TIC indicators as well as job satisfaction. "Personal support of TIC" was associated not only with personal familiarity with TIC, but also with indicators that the participant's job setting facilitates familiarity with TIC (e.g., TIC is well implemented in the organization, the participant has received formal TIC training). TIC-favorable staff-level indicators and feeling rewarded at work for using TIC were also strongly correlated with "personal support of TIC." The "system-wide support for TIC" subscale was the only ARTIC subscale that correlated strongly with system-level indicators of TIC implementation. This subscale was also predictably related to staff-level indicators associated with feeling supported at work. Participants scoring higher on the ARTIC "system-wide support for TIC" supplementary subscale also reported more job satisfaction and less burnout. In sum, associations among the ARTIC subscales and the validity indicators provide preliminary psychometric support related to validity.

Discussion

The increased awareness of the pervasive nature and public health impact of ACEs and trauma has spurred interest in trauma-informed service delivery (Felitti et al., 1998; Women and Trauma Federal Partners Committee & United States of America, 2013). Increasing numbers of service grant applications require organizations to address how they will provide services in a trauma-informed manner,

Table 4 Correlations between ARTIC scores, demographics, familiarity with TIC, and staff and system indicators of TIC Implementation

Measure	Underlying causes of problem behavior	Responses to problem behavior	On-the-job behavior	Self-efficacy at work	Reactions to the work	Personal support of TIC[a]	System support for TIC[a]	ARTIC-45	ARTIC-35	ARTIC-10
Demographics										
Job setting (human services = 1; education = 2)	−.09	−.15	−.19	−.09	−.06	−.15	−.10	−.15	−.14	−.17
Gender (male = 1; female = 2)	.10	.08	.06	.00	.08	.07	.02	.08	.08	.09
Racial/ethnic identity (1 = minority; 2 = majority)	.14	.16	.10	.00	.16	.15	.09	.15	.14	.13
Highest level of education	.20	.12	.15	.09	.13	.19	.07	.18	.18	.17
Annual income	.26	.21	.20	.17	.18	.19	.10	.25	.26	.24
Years in job role	.07	.08	.12	.16	.13	.08	.11	.14	.14	.16
Years with organization	.16	.16	.17	.13	.12	.12	.11	.18	.18	.20
Years in field	.26	.24	.22	.23	.19	.20	.18	.29	.29	.28
Contact with students (1 = none; 2 = face-to-face)	−.14	−.13	−.06	−.04	−.07	−.08	−.01	−.10	−.11	−.09
Familiarity with TIC										
How familiar?	**.42**	**.36**	**.39**	.21	.29	**.50**	.23	**.45**	**.42**	**.38**
Own research?	**.37**	**.35**	.27	.14	.18	**.39**	.10	**.34**	**.34**	**.30**
Formal training?	.24	.20	.27	.15	.16	**.26**	.18	.28	.26	.23
TIC implementation at current job?	.17	.16	.23	.14	.11	**.26**	**.32**	.27	.20	.18
Staff-level indicators of TIC										
Have a positive attitude about TIC?	**.50**	**.51**	**.45**	**.32**	**.40**	**.66**	**.31**	**.59**	**.55**	**.51**
Have the skills to practice TIC?	**.40**	**.40**	**.43**	**.39**	**.33**	**.58**	**.32**	**.54**	**.49**	**.45**
Feel motivated to change practice?	**.51**	**.53**	**.48**	**.33**	**.38**	**.62**	.28	**.59**	**.56**	**.51**
Engage in behavior with students that reflects TIC?	**.42**	**.39**	**.43**	.26	**.31**	**.57**	**.31**	**.51**	**.45**	**.42**
Ask students about their trauma histories?	.26	.26	**.36**	.20	.23	.28	.19	**.33**	**.32**	**.30**
Provide culturally competent care?	.19	.19	.28	**.32**	.20	**.31**	.23	**.32**	.29	.27
Use a strengths-based perspective?	**.34**	**.36**	**.37**	**.34**	.28	**.42**	.27	**.45**	**.43**	**.41**
Believe restraint/seclusion is traumatic?	.22	.27	.26	.12	.19	.26	.03	.25	.27	.27
Feel connected to students?	**.40**	**.39**	**.42**	**.45**	**.33**	**.43**	.26	**.51**	**.50**	**.45**
See students' behaviors as resulting from their adverse experiences?	**.51**	**.45**	**.52**	**.31**	**.40**	**.50**	.23	**.55**	**.55**	**.52**
Willing to be flexible and individualize?	**.37**	**.38**	**.44**	**.37**	**.33**	**.41**	.25	**.48**	**.47**	**.44**
Think about students doing the best they can at the time?	**.54**	**.48**	**.48**	**.39**	**.42**	**.47**	**.30**	**.58**	**.58**	**.58**
Believe students do things to hurt you personally?[b]	**.35**	.29	**.33**	**.30**	**.30**	**.33**	.14	**.38**	**.39**	**.42**
Feel burned out?[b]	.14	.10	.15	**.45**	.21	.20	**.38**	**.32**	.27	.26
Experience secondary traumatic stress?[b]	.06	−.01	.06	.27	.11	.11	.24	.17	.13	.11

Table 4 continued

Measure	Underlying causes of problem behavior	Responses to problem behavior	On-the-job behavior	Self-efficacy at work	Reactions to the work	Personal support of TIC[a]	System support for TIC[a]	ARTIC-45	ARTIC-35	ARTIC-10
Get compassion satisfaction from your work?	.26	.27	.28	**.56**	**.37**	**.31**	.29	**.45**	**.44**	**.40**
Feel satisfied with your job?	.23	.24	.25	**.65**	**.33**	**.31**	**.51**	**.49**	**.43**	**.41**
Feel committed to your job?	.16	.21	.21	**.52**	.24	.24	**.43**	**.39**	**.34**	**.32**
Have skipped work?[b]	.14	.10	.12	.16	.15	.09	.14	.17	.17	.19
Have used EAP?[b]	−.07	−.09	−.04	.05	−.04	−.05	.03	−.04	−.05	−.04
Feel able to complete your tasks and reach goals at work?	.10	.09	.21	**.43**	.18	.22	**.34**	**.30**	.25	.24
Feel supported by your colleagues?	.12	.13	.22	**.45**	.24	.23	**.58**	**.39**	.29	.28
Feel supported by your direct supervisor(s)?	.15	.12	.19	**.42**	.21	.23	**.66**	**.40**	.27	.26
Feel supported by your administrator(s)?	.14	.13	.19	**.42**	.20	.20	**.64**	**.38**	.27	.26
Feel rewarded at work for using TIC?	.27	.26	.25	**.35**	.25	**.40**	**.54**	**.45**	**.35**	**.32**
System-level indicators of TIC										
Use of restraints, seclusions, suspensions, expulsions, and/or out of class time?[b]	.09	.13	.10	.16	.10	.12	.21	.18	.15	.16
Need for serious incident reports?[b]	.15	.15	.08	.10	.11	.14	.17	.17	.15	.14
Punitive and coercive environment?[b]	.11	.11	.13	.17	.07	.10	**.33**	.20	.15	.14
Emphasis on accountability within flexibility?	.04	.03	.05	.12	.07	.06	.29	.14	.08	.08
Interest in genuine staff development?	.12	.12	.13	**.31**	.15	.15	**.51**	**.30**	.21	.21
Clear job role definitions?	.04	.07	.10	.25	.14	.12	**.40**	.23	.15	.16
High staff turnover?[b]	.18	.19	.16	.25	.15	.19	**.36**	.29	.24	.26

$N = 760$ for demographics other than annual income, $n = 759$ for annual income, $n = 759$ for familiarity with TIC measures, $n = 742$ for staff-level TIC outcomes, and $n = 733$ for system-level TIC outcomes. To facilitate visual examination of the findings, correlations greater than magnitude $r = .30$ are bolded, although all correlations greater than magnitude $r = .07$ are statistically significant ($p < .05$). Item wording varies slightly between education and human services/healthcare versions (e.g., "student" vs. "client")

EAP employee assistance program

[a] Indicates supplementary scale

[b] Indicates reverse-coded item

bills at the state level are being considered to mandate TIC in schools (Cole et al., 2013), and a class action lawsuit has even been filed arguing that special educational law should require schools to provide accomodations for students affected by trauma (Adams, 2015). There are calls to rigorously evaluate TIC in the context of progress monitoring, quality assurance, and research, with the goal of moving TIC toward widespread and sustainable adoption (Ko et al., 2008; SAMHSA, 2014). However, several major barriers exist that block the forward movement of TIC-related research, practice, and policy. First, though the foundational definition of TIC is clear (e.g., Harris & Fallot, 2001), the operationalization of this definition varies widely across the emerging TIC literature. Perhaps as a result, few systematically developed and psychometrically strong instruments exist to evaluate TIC, and specifically staff attitudes about TIC. The current study attempted to address these gaps by developing and evaluating the first theoretically driven, direct, efficient, and cost-effective measure of attitudes relevant to TIC for staff working in

schools, human service systems, health care, and other settings serving individuals with histories of ACEs and trauma.

The seven subscale, 45-item ARTIC scale exhibited factor structure consistent with research and theory. Internal reliability and temporal consistency over 6 months were also found, providing preliminary psychometric evidence for the reliability of ARTIC scores. The five main subscales of the ARTIC include (a) underlying causes of problem behavior and symptoms, (b) responses to problem behavior and symptoms, (c) on-the-job behavior, (d) self-efficacy at work, and (e) reactions to the work. The supplementary subscales include (f) personal support of TIC and (g) system-wide support for TIC. These seven subscales represent much of the current thinking about important elements of TIC, both in schools and in human services and healthcare settings (Harris & Fallot, 2001; SAMHSA, 2014). For example, the first, second, and third subscales directly echo the first and second Trauma-Sensitive Vision Questions for schools: understanding how trauma affects individuals and responding to students in ways that enhance their feeling of safety and promote their recovery from trauma (Cole et al., 2013). Self-efficacy, targeted by the fourth subscale, is a core construct that has been linked to the successful implementation of evidence-based practices (Michie et al., 2005). The fifth subscale represents the importance of understanding vicarious traumatization and engaging in self-care in order to maintain the capacity to be caring and engaged on the front lines (Rossen & Hull, 2013).

We know from the broader dissemination and implementation literature that whether staff engage in new behaviors in the context of their jobs is linked to both personal support of the initiative (i.e., the sixth subscale) and organization-level factors (i.e., the seventh subscale) (Baker et al., 2010). It is critical that individual staff feel supported horizontally, by colleagues, and vertically, by supervisors and the leadership, as they move their organization's culture toward being trauma-informed via their day-to-day and moment-to-moment activities. In other words, the sixth and seventh subscales tap into the sentiment that teachers, service providers, and other professionals simply "cannot do this alone" (Rossen & Hull, 2013, p. 255).

The ARTIC is the result of a partnership-based approach to instrument development (Hausman et al., 2013), wherein content experts were integral members of the measure development and authorship team. Multiple sources were utilized to develop the ARTIC, allowing us to capitalize not only on the wider theoretical and empirical literature on TIC, but also on the in-house expert knowledge related to psychological trauma and TIC implementation. As a result, we believe that the ARTIC has strong content validity,

reflecting the constructs that are central to service providers' attitudes relevant to TIC. Single-item indicators were used to evaluate construct and criterion-related validity. Robust and theoretically meaningful patterns of relationships were found. For example, ARTIC scores differed between those participants who were and were not familiar with TIC. Similarly, ARTIC scores were meaningfully associated with staff and system-level indicators associated with TIC implementation. These findings provide promising evidence of the validity of ARTIC scores.

The ARTIC was intentionally developed with its consumers in mind. As such, it can be flexibly administered to suit the needs of organizations with different goals and resources. The long form, the ARTIC-45, provides scores on five subscales representing attitudes favorable to TIC, two subscales related to personal and system-wide support of TIC implementation, and an overall score. If an agency has not yet introduced the idea of TIC, the two supplemental subscales related to personal and system-wide support of TIC can be eliminated, resulting in the ARTIC-35. Finally, if the organization has very limited resources or time, the ARTIC-10 can be administered instead. The ARTIC-10 is an abbreviated scale reflecting the five subscales representing attitudes favorable to TIC in one summary score. The ARTIC-45 takes 10–12 min to complete, while the ARTIC-35 takes 8–10 min and the ARTIC-10 takes 2–3 min. Versions of the ARTIC exist for both schools and human service settings, ensuring that staff across job settings will find the items face valid and relevant. Scoring the ARTIC is also relatively simple; after reverse scoring the indicated items, means are calculated for the composite scores and subscales. Higher scores are more favorable across all items. In contrast to other instruments which are costly, focus on distal outcomes such as student/client or organizational outcomes, or lack of strong psychometric properties, the ARTIC directly and effectively evaluates the attitudes of service providers, who, through their everyday interactions with students and clients, embody TIC within an organization. In sum, the ARTIC is a relatively brief, flexible, efficient, and cost-effective measure that can be easily administered and used by organizations.

Study Limitations and Future Directions

This evaluation is the first step toward developing robust evidence of the ARTIC's psychometric properties. However, questions remain which will require additional research using the ARTIC with other samples. For example, though model fit was good (Hooper et al., 2008), future research with other samples will need to replicate the seven-factor structure. Similarly, future research must further develop the evidence base related to the validity of

ARTIC scores. The ARTIC is a measure of attitudes and not of behaviors. Therefore, the ARTIC should be empirically linked with important, gold standard metrics, some of which should be gathered using direct assessment of behaviors consistent with TIC. For example, future studies should investigate the construct validity of ARTIC scores by determining whether the ARTIC can differentiate between staff within an organization who have and have not been trained in TIC, discriminate between organizations that have and have not adopted TIC, and detect change within an individual from before to after TIC implementation. This study was unable to answer these questions as participants completed the measure out of the context of their organizations' ongoing TIC initiatives. Future research should also focus on developing evidence of criterion-related validity by linking TIC implementation with favorable staff and system-level outcomes. Given the nascent literature base related to the correlates and outcomes of TIC, the correlations presented in this study may provide useful starting points for these investigations. Lastly, a future goal of research using the ARTIC will be to provide norms or cut scores so that organizations have access to easy-to-use benchmarks relevant to TIC adoption and implementation.

Although these preliminary data indicate that the ARTIC has the potential to be a valuable clinical and research tool, several important limitations of the study must be noted. First, this study relied on self-report measures; future multi-method studies can address potential limitations involving method variance or self-report response sets such as social desirability. Second, this study was cross-sectional, and causal inferences cannot be drawn in the absence of longitudinal investigations. Third, the study sample was limited in diversity, especially related to gender, race/ethnicity, and educational level. Given that TIC is implemented fully within organizations, typically including everyone who works in the building, future research should ensure that all stakeholders are represented, including paraprofessionals, teaching assistants, cafeteria workers, custodial staff, and bachelor level direct care staff. Lastly, our methods favored the recruitment of individuals who were already interested in the concept of TIC, though any error this introduced would have worked against our hypotheses. Future research will need to replicate the factor structure and other psychometric findings with additional and broader samples.

Study Implications

As the TIC movement swells and ripples out across service settings including, but not limited to, schools, community mental health, child welfare, and primary care, stakeholders have begun to ask questions such as "what does being trauma-informed actually mean?," "do I practice TIC?," and "doesn't TIC describe what I already do?" Some organizations invite experts to provide a one-time training on TIC or train their mental health staff in evidence-based trauma-specific interventions, such as trauma-focused cognitive behavioral therapy (TF-CBT), and report that the agency is "trauma-informed." Others revise their policies, train their staff, and provide ongoing coaching, but still wonder whether these actions have resulted in a culture that is "trauma-informed." To date, there is no objective way to determine the extent to which an individual or system is trauma-informed. The ARTIC has the potential to begin filling this critical gap by taking an initial step toward measuring one central component of TIC: service providers' attitudes about TIC. Given that the ARTIC is the first measure of its kind to attempt a comprehensive representation of TIC-relevant attitudes, we also believe that the ARTIC can spur the trauma field to "drill down" to what is, and what is not, trauma-informed, and thus to move beyond what are currently important foundational principles with unclear operational definitions.

Due to the widespread relevance of TIC to educational, human service, corrections, and medical settings, the potential uses of the ARTIC are vast. Schools and organizations can use the ARTIC as a baseline measure to determine the extent to which their culture is trauma-informed, and the findings can then inform data-driven decision making about the need for trauma training and other TIC interventions. For schools and organizations that have implemented TIC, the ARTIC can provide a way to engage in ongoing evaluation of system-wide TIC practices that are hypothesized to be linked to safe and supportive environments and associated with better outcomes. Experts in trauma-informed system change argue that, while TIC is difficult to fully implement, it can be even harder to sustain due to wider system pressures that act as a gravitational "pull toward the punitive" (Morgan, Salomon, Plotkin, & Cohen, 2014). The ARTIC can be used both to monitor such backslide and to serve as an "assessment-as-intervention" to resist that pull.

For schools or organizations that have already implemented TIC, the ARTIC can be used as a screening tool for prospective personnel to determine whether they possess attitudes that would be a good fit for the trauma-informed culture. For example, the ARTIC can be used to assess whether foster parents, mentors, teachers, paraprofessionals, coaches, and volunteers would be likely to adopt a trauma-informed approach to service delivery. Schools or organizations that have never implemented TIC may find the ARTIC meets a different need. In the field of implementation science, there is an emphasis on readiness to embrace innovation (Weiner, 2009). This is particularly true when the innovation is a paradigm shift away from

traditional practices, as is typically the case with TIC (Bloom & Farragher, 2010, 2013; Saakvitne et al., 2001). TIC innovation may be more likely to take root in an organization that has achieved a certain level of readiness. Thus, TIC implementation may be counterproductive or a waste of resources for a school or organization that has not reached that level of readiness (Cole et al., 2013). The ARTIC could be used as a tool to assess readiness for adoption of TIC innovation at the system level or to evaluate potential barriers to adoption within individuals or units. In program evaluation and research contexts, the ARTIC can also be used to evaluate which interventions and models (e.g., RC, Sanctuary, ARC) are most effective in bringing about trauma-informed change. In sum, the ARTIC provides the first psychometrically reliable and valid tool to help stakeholders—researchers, practitioners, policymakers, and consumers—evaluate TIC and its outcomes.

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