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The Trauma-Informed Climate Scale-10 (TICS-10): A Reduced Measure of Staff Perceptions of

the Service Environment

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Abstract

Trauma-informed climates prioritize staff and client experiences of safety, trust, choice, collaboration, and empowerment. The Trauma-Informed Climate Scale (TICS) was developed to measure staff perceptions of these values within the service environment. The aims of the current study were to create a reduced version of the original TICS and assess its psychometric properties to increase its efficiency and appropriateness in human service settings. Item retention was based on discrimination parameters, item-total correlations, and correlations with external criteria. The analytic approach yielded a 10-item scale reduction, with confirmatory factor analyses supporting the scale's construct validity and reliability (α=.91).

Practice highlights for human service managers and practitioners:

- The TICS-10 is a simple, easy to administer tool to assess staff perceptions of safety, trust, choice, collaboration, and empowerment within the service environment.

- The TICS-10 is best utilized in trauma-informed training and implementation projects to identify your agency's strengths and limitations along the five values of TIC.

The Trauma-Informed Climate Scale-10 (TICS-10): A Measure of Staff Perceptions of the

Service Environment

Trauma-informed care (TIC) is being implemented across numerous disciplines and

service sectors (Bowen & Murshid, 2016). Over the past two decades, awareness about the

prevalence and impact of psychological trauma has grown and organizations and practitioners

have come to realize that service settings can be sources of trauma for all of those involved,

including both service users and workers (see Bloom, 2012; Wolf, Green, Nochajski, Mendel, &

Kusmaul, 2014 for a discussion of the impact of trauma within the workforce). In the seminal

work by Harris and Fallot (2001), these authors noted that the symptomatology associated with

trauma is often the result of context and environment rather than pathology. As a result, much of

the early work on TIC focused on creating a universal definition and identifying guiding values

to be implemented in organizational settings (Harris & Fallot, 2009; Hopper, Bassuk, & Olivet,

2010).

Harris and Fallot (2001) offered five essential values to guide the work of creating

trauma-informed services and settings including safety, trustworthiness, choice, collaboration,

and empowerment. Briefly, *safety* means that the organization pays attention to whether all

people- including clients and staff- feel physically and psychologically safe. *Trustworthiness* is

demonstrated through transparent operations and decision making, and adequate follow through

on promised services. *Choice* means just that. Services are provided in ways that give clients

options wherever and however possible. *Collaboration* is the deliberate partnering of clients and

staff to address commonly defined goals. Collaboration is achieved through *empowerment*, or

the leveling of power differentials between clients and staff and between staff and supervisors.

While the field still lacks a universally agreed upon definition of TIC, these core values outlined

by Harris and Fallot (2001) and expanded on by SAMHSA (2014) are widely accepted. TIC begins with knowledge about the impact trauma has on service use and engagement, but moves into an expectation that organizational policies, practice, and environments reflect trauma-informed values (Miller & Najavits, 2012; Morrissey et al., 2014). Despite enthusiasm and commitment, as organizations have moved toward creating service environments based on these core values it has become clear that it is still challenging to measure the implementation of TIC. In response to this gap, several measures assessing the extent to which environments are trauma-informed have developed (e.g., Hales, Kusmaul, & Nochajski, 2017).

There are also many challenges to measuring TIC implementation. The most difficult to overcome is a strength of TIC itself: TIC implementation looks different across organizations and settings because it is able to adapt to specific needs and circumstances (Yatchmenoff, Sundborg & Davis, 2017). In an attempt to standardize approaches experts in the field have offered assessments (Fallot & Harris, 2009), standards of practice (Trauma Informed Oregon, 2015), and implementation toolkits (e.g., the National Center on Family Homelessness Trauma-Informed Organizational Toolkit by Guarino, Soares, Konnath, Clervil, & Bassuk, 2009; The Trauma Informed Organizational Change Manual by Koury & Green, 2019). While these documents have generated an extensive list of possible strategies, the variability continues to be challenging for both implementation and measurement.

Existing measures. Most of the current available instruments primarily measure TIC implementation strategies (see Developing Trauma-Informed Organizations; Institute for Health and Recovery, 2012; Trauma-Informed System Change Instrument; Richardson, Coryn, Henry, Black-Pond, Unrau, 2012; Creating Cultures of Trauma-Informed Care; Fallot & Harris, 2009; and TICOMETER, Bassuk, Unick, Paquette, & Richard, 2017, for examples). Particularly, they

focus on the *what* and *how* of implementation.

While these instruments are valuable in emphasizing the action steps needed for TIC in various organizational domains, such as program procedures and settings, trauma screening and assessment, and service planning (see Fallot & Harris, 2009; Substance Abuse Mental Health Services Administration [SAMHSA], 2014 for additional information), comparison across systems and settings remains difficult. Instruments are often industry specific (e.g. child welfare; Hendricks, Conradi, & Wilson, 2011; behavioral health; National Council for Behavioral Health, 2013) or only explore specific aspects of TIC implementation (e.g., training; Kramer, Sigel, Conners-Burrow, Savary, & Tempel, 2013). Furthermore, they tend to be quite long (e.g., the National Center on Family Homelessness Trauma Informed Organizational Toolkit; Guarino, et al., 2009 has 135 questions) and have not been psychometrically tested (see The Attitudes Related to Trauma-Informed Care [ARTIC]; Baker, Brown, Wilcox, Overstreet & Arora, 2015; the TICOMETER; Bassuk et al., , 2017 as exceptions). Organizations that are in the process of implementing TIC often have many things going on at once, including training, reflection, and new processes and procedures. As a result, managers who are attempting to implement TIC are looking for shorter and easier to use TIC instruments (Koury & Green, 2019).

The Trauma-Informed Climate Scale (TICS). The TICS is a 34-item instrument that measures staff perceptions of the service environment along Harris and Fallot's (2001) five values of TIC: safety, trustworthiness, choice, collaboration, and empowerment. In the initial TICS study by Kusmaul, Wilson, and Nochajski (2015), exploratory factor analyses (EFA) were conducted on a sample of (n = 282) health and human service workers. The analyses identified five primary factors within the TICS that were consistent with Harris and Fallot's values of TIC. As a next step in this research, Hales, Kusmaul, and Nochajski (2017) conducted a confirmatory

factor analysis (CFA) with a larger sample drawn from six human service agencies (n = 642).

This CFA identified that the values of Harris and Fallot were strongly correlated with one

another (with factor correlations ranging from .70 to .99). Due to the magnitude of these

correlations, two CFA models were tested: one where all of the items loaded on their respective

factors, and an alternative where each of the factors loaded on a single, underlying factor or

dimension. It was hypothesized that, due to the large size of the factor correlations, the values of

Harris and Fallot may share a single, underlying dimension. The Hales et al. (2017) study

discovered that when the model was tested with one underlying dimension, it provided a better

fit to the data. This finding indicates that while each of the values of Harris and Fallot are unique,

they also share an underlying dimension. In other words, while it is practical to differentiate

between safety, trust, choice, collaboration, and empowerment in TIC practice and

implementation, each of these values are inherently connected to one another such that change in

any one value will inevitably result in changes to the others.

Numerous studies involving the values of TIC have examined how the creation of

trauma-informed work environments influences organizational, staff, and client outcomes (Hales

et al., 2018; Hales, Nochajski, Green, Hitzel, & Woike-Ganga, 2017). The service dimensions

measured by the TICS have been found to be negatively associated with burnout and positively

associated with commitment (Hales et al., 2018; Keesler, 2016). These findings indicate that

changes to the service environment may decrease staff experiences of burnout and increase their

commitment to the organization. In turn, burnout and commitment have demonstrated to

significantly influence staff performance and organizational effectiveness (Meyer & Allen, 2002;

Schaufeli & Bakker, 2004).The implementation of TIC has also been linked to increases in

resident and staff satisfaction (Hales, et al., 2018; Hales, Nochajski, Green, Hitzel, & Woike-

Ganga, 2017), as well as increases in client treatment retention (Hales et al., 2018; Gatz, Brown, Hennigan, Rechberger, O'Keefe, Rose, & Bjelajac, 2007).

Current Study

This paper describes efforts to decrease the length of the TICS for easier administration to agency staff. Given limited time and resources within many service settings, there is demand for short forms (Putnam & Rothbart, 2006; Kruyen, Emons, & Sijtsma, 2013). This study was conducted largely in response to requests from administrators and staff members in health and human service settings for a brief version of the TICS (Koury & Green, 2019). Further, Rammstedt and Beierlein (2014) suggested response rates are negatively correlated with the length of a survey. While the 34 item TICS is not overwhelmingly long, agencies often use these questions as part of larger assessments that ask about staff training, knowledge, and experience as it relates to TIC.

One common concern about shortened versions of surveys is the loss in individual precision. This is especially true in psychological tests where results may impact treatment recommendations (Ziegler, Kemper, & Kruyen, 2014). In this case, because the TICS and its reduced version will be used to guide TIC implementation efforts and assess progress, there is no need for individual precision. Thus, the first aim of this paper was to reduce the number of items of the TICS in order to create a shortened version of the scale. The second aim of this paper was to assess the reliability and validity of the reduced TICS for its use in practice, evaluation, and research.

Methods

This study used responses from Kusmaul, Wilson, and Nochajski (2015) and Hales, Kusmaul, and Nochajski (2017) to evaluate and reduce the TICS. All participants were invited to

complete an online survey administered via Survey Monkey as part of a broader organizational

change process to become trauma-informed (for a full description of this TIC change process,

see Hales et al., 2018). The majority of participants received only the TICS (N=931), while an

additional sample received the TICS, Professional Quality of Life Scale (ProQoL; Stamm, 2010),

and Allen and Meyer's (1996) measure of organizational commitment (N=197). All study

procedures were reviewed and approved by the University at Buffalo's Institutional Review

Board.

Sample

Sample one included participants who completed the TICS. They were derived from 59

agencies, representing a variety of service organizations in Western New York including

hospitals, social services, behavioral health services, school systems, and a variety of other

human service organizations. This sample contained participants from the EFA (Kusmaul,

Wilson, & Nochajski, 2015) and CFA (Hales, Kusmaul, & Nochajski, 2017) studies, as well as

additional participants that had completed the TICS since the completion of these investigations.

The majority of these participants identified as white (N=151; 70.9%), female (N=482; 51.8%),

and held either a Bachelor's (N=257; 27.6%) or Master's (N=320; 34.4%) degree. Sample two

participants included those that completed the TICS, ProQoL, and Organizational Commitment

scales. These participants were drawn from a single behavioral health department located in a

public hospital in Western New York. This sample was also primarily white (N=151; 76.6%) and

female (N=139; 70.6%). For a full description of the demographic characteristics of samples one

and two, please see Table 1.

Table 1. *Sample Characteristics*.

	Sample One (N=931)		Sample Two (N=197)	
Variable	Count	Percentage	Count	Percentage
Age				

20-30	191	20.5	41	20.8
31-40	200	21.5	43	21.8
41-50	173	18.6	39	19.8
51-60	169	18.2	55	27.9
61-70	35	3.8	9	4.6
Missing	163	17.5	10	5.1
Race				
African American/Black	86	9.2	20	10.2
Caucasian/White	660	70.9	151	76.6
Biracial/Multiracial	13	1.4	5	2.5
Other	40	4.3	10	5.1
Missing	132	14.2	11	5.6
Gender				
Female	482	51.8	139	70.6
Male	334	35.9	47	23.9
Missing	115	12.3	11	5.6
Education				
High school	47	5.0	7	3.6
Associates	101	10.8	52	26.4
Bachelors	257	27.6	52	26.4
Masters	320	34.4	66	33.5
Other	14	1.5	11	5.6
Missing	192	20.6	9	4.5

Analytic Procedures

Aim 1. To reduce the number of items from the TICS, the researchers followed the

procedures of Stanton, Sinar, Balzer, and Smith (2002) by examining a variety of internal and

external dimensions of item quality (for an example of this approach, see Richins, 2004). Stanton

et al. (2002) conducted a systematic review of the various approaches used to reduce scales.

They discovered that the most frequently used approaches included measures of internal

consistency (i.e., item-total correlations) and item discrimination, or the extent to which

individual items are able to predict the total scale scores. However, Stanton et al. argued that too

great an emphasis on internal quality in scale reduction approaches can lead to items with near

perfect correlations that do not fully represent the variability within a given construct (i.e. item

redundancy). To address this concern, analyses of external quality were also assessed. Ultimately, individual items with high external quality are those items that approximate the correlation between the subscale from which it is drawn and the external criteria.

To assess the internal quality of items, discrimination parameters were computed using MPlus Version 8.2 item response functions. Discrimination parameters indicate the extent to which variations in scores on individual items predict variation in the underlying latent construct. In the social sciences, discrimination parameters generally range from .50 to 2.50, with higher scores indicating a stronger relationship between the particular item and the total scale score (Fraley, Waller, & Brennan, 2000). That is, in attempting to reduce the number of TICS items, we were attempting to retain the items that best represent the underlying TICS constructs of Harris and Fallot's (2001) five value model of TIC. In addition, item-total correlations were computed in SPSS Version 23, indicating the extent to which each item was correlated with the total scale. In general, item-total correlations should be at least .40 or higher (Gliem & Gliem, 2003).

To assess external quality, the researchers used a separate sample to assess item correlations with burnout and affective commitment. Burnout and commitment were selected based on their demonstrated relationship with the TICS measure (Hales, 2018) and their ability to predict staff performance (Meyer & Allen, 2002; Schaufeli & Bakker, 2004). Environments that are high in safety, trust, choice, collaboration, and empowerment are associated with decreased staff burnout and increased staff commitment (Hales, 2018; Keesler, 2016). The measures of external item quality indicate the extent to which individual items behave similarly to their respective scales in relation to gold standard measures of employee well-being. For instance, Hales (2018) discovered a .55 correlation between the choice subscale of the TICS and

organizational commitment: individual choice items that approximate correlations of .55 with

organizational commitment would indicate an excellent representation of the subscale. Similarly,

the correlation between the choice subscale and burnout was -.44 (Hales, 2018): individual

choice items that correlated with burnout around .44 would represent items with high external

quality. Within Table 2, the correlations for each of the subscales with burnout and commitment

is identified and can be used to compare individual items on external item quality. Lastly, the

judgmental or subjective item dimension was applied by constraining the scale reductions to

match Harris and Fallot's (2001) five value model of TIC. That is, we examined two different

scale reductions where each of Harris and Fallot's five values were represented by either two or

three items, resulting in a ten-item and a fifteen-item reduced version of the TICS. At least two-

items from each scale should be retained so that administrators and staff can obtain an indication

of how the agency is doing on each of the five values.

        Aim 2. To assess the reliability of the reduced versions of the TICS, Cronbach's α were

computed in SPSS. To assess the validity of the scale reductions, confirmatory factor analyses

(CFA) were conducted using MPlus Version 8.2. CFA is a popular statistical approach that

examines an instrument's construct validity, or the extent to which a scale measures what it

purports to measure. Thus, CFAs were conducted to examine the varying validity of the two

reduced versions of the TICS. Hu and Bentler's (1999) cutoff criteria for fit indices were used to

assess model fit: root mean squared error of approximation (RMSEA) < .06, standardized root

mean square residual < .08, comparative fit index (CFI) and the Tucker-Lewis Index (TLI) < .95.

Essentially, these indices examine various dimensions of how well the proposed measurement

models fit the observed data. The model chi-square (χ^2) statistic is an estimation of the overall

model fit, examining the relationship between the proposed measurement model and the sample

data. The model χ^2 should not be significant, as the measurement model should not be different than the sample data. In consequence, lower χ^2 values are indicative of better fitting measurement models. The reduced version of the TICS with the highest Cronbach's α, CFI, and TLI, and lowest SRMR, RMSEA, and χ^2 values will be retained.

Measures

The Trauma-Informed Climate Scale (TICS) is a 34-item measure of staff perceptions of the service environment based on Harris and Fallot's (2001) five values of TIC (i.e., safety, trustworthiness, choice, collaboration, and empowerment). The TICS is rated on a 5-point Likert scale ranging from 1 'Strongly Disagree' to 5 'Strongly Agree'. The TICS factor structure and psychometric properties have been tested in previous research (Kusmaul et al., 2015; Hales, Kusmaul, & Nochajski, 2017).

The Burnout subscale from the Professional Quality of Life Scale (ProQoL) was used to measure burnout (Stamm, 2010). The ProQoL examines compassion satisfaction and compassion fatigue (i.e., burnout and secondary traumatic stress) among helping professionals. The ProQoL is a 30-item scale based on a 5-point Likert ranging from 1 'Never' to 5 'Very Often'. The burnout subscale contains 10 items. The ProQoL has good construct validity and reliability estimates (Stamm, 2010).

Organizational commitment was measured using the Affective Commitment subscale of Allen and Meyer (1996). Affective commitment refers to the emotional attachment of staff members to their current organization, and has been shown to predict employee retention and performance (Allen & Meyer, 1996). The eight-item subscale is based on a 7-point Likert ranging from 1 'Strongly Disagree' to 7 'Strongly Agree' and has good reliability (α =.82) and validity (Allen & Meyer, 1996).

Results

Aim 1: Item Reduction

Table 2 contains the results of the analytic tests for internal and external item quality. The discrimination scores, which represent the extent to which item variation explains variation in the total scale score, ranged from .34 to 2.22 across the five subscales. Within each of the subscales, there were two to three items that yielded markedly higher discrimination scores relative to the others (e.g., Trust 2 and Trust 3 in the Trust subscale). In terms of the item-total correlations, an indication of the extent each item was correlated with the total scale, the majority of correlations were moderate to large, ranging from .26 to as high as .75. In most instances, the items with the highest discrimination parameters also scored the highest in regard to item-total correlations (e.g., safety 5 and safety 2). However, there were instances of discrepancy where the scale items with the highest discrimination parameters did not have the highest item-total correlations. For instance, choice 3 yielded the second highest discrimination (1.50), but only the fourth highest item-total correlation (.62). These discrepancies were resolved by considering the dimensions of external item quality. Considering that Choice 5 correlation with burnout and commitment were slightly closer to the subscale correlation relative to Choice 3, Choice 5 was prioritized for retention. Overall, the extent to which each of the items reflected their respective scale's correlation with the external factors of burnout and commitment ranged considerably. Items that had particularly low correlations with these constructs were not considered for retention (e.g., item Safe 8 was not considered due to its correlation of .11 to burnout). The two highest quality items from each subscale were the basis of the 10-item TICS (i.e., Safety 5 and 2, Trust 3 and 2, Choice 2 and 5, Collaboration 6 and 5, and Empowerment 4 and 7). For the 15-item version, the

third highest quality item was added to each of the five subscales (i.e., Safety 1, Trust 5, Choice

3, Collaboration 6, and Empowerment 2).

Table 2. *Item Qualities of Internal Domain and External Reference.*

Items	Internal Item Quality		External Item Quality	
	Discrimination Parameter	Item-Total Correlation	Item-Burnout Correlation	Item-Commitment Correlation
Safety			-0.48	0.54
Safety 1	1.00	.41	-0.32	0.35
Safety 2	1.27	.63	-0.25	0.45
Safety 3	.45	.36	-0.38	0.21
Safety 4	.92	.56	-0.25	0.28
Safety 5	1.41	.65	-0.41	0.58
Safety 6	.34	.35	-0.16	0.24
Safety 7	.52	.45	-0.37	0.33
Safety 8	.35	.26	-0.11	0.10
Trust			-0.45	0.58
Trust 1	.61	.41	-0.27	0.28
Trust 2	1.21	.60	-0.24	0.48
Trust 3	1.12	.65	-0.41	0.43
Trust 4	.59	.49	-0.26	0.42
Trust 5	.85	.51	-0.29	0.35
Trust 6	.71	.52	N/A	N/A
Choice			-0.46	0.62
Choice 1	1.30	.65	-0.15	0.33
Choice 2	1.66	.72	-0.38	0.55
Choice 3	1.50	.62	-0.39	0.46
Choice 4	.79	.51	-0.24	0.33
Choice 5	1.45	.65	-0.41	0.53
Choice 6	.83	.55	-0.38	0.49
Collaboration			-0.37	0.62
Collaboration 1	.81	.50	-0.14	0.39
Collaboration 2	1.10	.68	-0.29	0.48
Collaboration 3	1.52	.57	-0.13	0.43
Collaboration 4	.62	.42	-0.28	0.36
Collaboration 5	1.45	.68	-0.34	0.46
Collaboration 6	1.44	.68	-0.45	0.58
Empowerment			-0.48	0.66
Empowerment 1	.94	.51	-0.19	0.41
Empowerment 2	1.88	.70	N/A	N/A
Empowerment 3	1.11	.58	-0.37	0.54
Empowerment 4	2.22	.75	-0.35	0.45
Empowerment 5	1.46	.65	-0.39	0.48
Empowerment 6	1.11	.58	-0.46	0.57
Empowerment 7	2.11	.72	-0.39	0.52

Aim Two: Reduced TICS Reliability and Validity

Table 3 provides the results of the confirmatory factor analyses (CFAs) and reliability

assessments of each of the three reductions where two or three items were retained from each of

the five Harris and Fallot (2001) dimensions. While the 15-item scale had the highest reliability

(Cronbach's α .92), and met all but one of Hu and Bentler's (1999) model fit criteria (the TLI

was not greater than or equal to .95), the scale represented a poorer fit to the data as indicated by

a χ^2 statistic (421.43) that was nearly twice as large as the 10-item version. The 10-item TICS

also had excellent reliability (Cronbach's α .91), met all but one of Hu and Bentler's (1999)

criteria (the CFI was less than .95), but represented a better fit to the data by the model χ^2

(229.80) relative to the 15-item version. In consequence, the 10-item TICS is recommended for

future use as a shortened form of the original climate scale. The full TICS-10 is available in

Table 4.

Table 3. *Confirmatory Factor Analyses for Reduced Versions of TICS.*

	15-item TICS	10-item TICS
Reliability		
Cronbach's α	.92	.91
Validity (CFA)		
χ^2	421.43	229.80
RMSEA	.06	.08
SRMR	.03	.03
TLI	.94	.96
CFI	.95	.94

Note.
N= 931.

Table 4. Trauma-Informed Climate Scale 10 (TICS-10).

Item (Scale)
• When I come to work here, I feel emotionally safe. (Safety)
• If I am upset at work, I know that other staff and supervisors will understand. (Safety)
• I'm not sure who I can trust among my co-workers, supervisors, and administrators.* (Trust)
• I can trust my supervisor to be fair in dealing with all staff. (Trust)
• I feel like I have a great deal of control over my job satisfaction. (Choice)

- I don't have many choices when it comes to doing my job.* (Choice)
- The leadership listens only to their favorite employees.* (Collaboration)
- The administration here does not share decision-making with the rest of the staff.* (Collaboration)
- This organization doesn't seem to care whether staff gets what they need to do their jobs well.* (Empowerment)
- Staff is not supported when they try to find new and better ways to do things.* (Empowerment)

Note.
* Indicates reverse scored items.

Discussion

The development of TIC measures has played an instrumental role in building an evidence-base for adopting, implementing, and evaluating TIC across service systems. Through the use of TIC measures, research has identified relationships amongst TIC implementation and TIC climates with staff satisfaction (Hales, Nochajski, Green, et al., 2017), organizational commitment (Hales, 2018), employee burnout (Keesler, 2016), and a variety of client outcomes (Morrissey et al., 2014; Hales, Green, Bissonette, et al., 2018). The introduction of a reduced TIC scale aims to facilitate the use of TIC measures in the continued development of the TIC evidence-base. The TICS-10 is an additional instrument that can be used to guide research, evaluation, policy, and practice initiatives in conjunction with other demonstrated measures of TIC procedures and practices (e.g., Guarino et al., 2009). As the TICS-10 is a measure of agency climate, it is best used in conjunction with a TIC measure of organizational policies, procedures, and practices. In clinical settings, the TICS-10 may also be used in conjunction with promising new scales measuring the presence of TIC in the therapist-client relationship (e.g., Baker et al., 2015).

Measures of the organizational environment are important for employee and organizational level outcomes. Yang, Cauglin, Gazica, Truxillo, and Spector's (2014) meta-analytical review of workplace mistreatment climate discovered that across 35 studies,

psychological mistreatment climate, defined as incivility, aggression, and bullying, was associated with human resource outcomes of intent to leave, job satisfaction, organizational commitment, and job performance. This suggests that measuring organizational climate is important for improving employee satisfaction, performance, and organizational effectiveness as a whole. Their analysis included studies that used multidimensional psychological mistreatment scales and other single dimension scales. As TIC scales like the TICS-10 are developed, similar analyses will be possible to understand the impacts of TIC on worker and client outcomes.

Policymakers and administrators seeking to develop TI atmospheres within their service systems and agencies can use the TICS-10 to ensure organizational climates are consistent with TI approaches. The TICS has been used across a wide array of workplace settings, including but not limited to: high schools and higher educational settings; departments of social services; public hospitals; behavioral healthcare departments; substance abuse and mental healthcare settings; and a variety of nonprofit organizations (Kusmaul et al., 2015). As the items are worded in non-setting specific language, its implementation is not bound to any particular setting. The TICS-10 constructs of safety, trustworthiness, choice, collaboration, and empowerment are universal representations of workplace dynamics that have been demonstrated to impact employee well-being and effectiveness. System and organizational change processes that emphasize staff autonomy, participation in the workplace, and empowerment can use the TICS-10 to obtain a general sense of the work environment. The TICS-10 ultimately measures the extent to which employee rights, freedoms, and contributions are valued within the agency, and research has demonstrated how the prioritization of these values can contribute to the overall success of the agency (Hales, Green, Bissonette et al., 2018).

The continued development of TIC instruments is also important because there are considerable variations in definitions and applications of TIC across literatures and settings. The value-based approach of TIC espoused by Harris and Fallot (2001) is widely supported and offers the greatest opportunity for generalizing TIC definitions and TIC practices across service systems. As TIC becomes increasingly mandated across service systems (e.g., Oregon Health Authority, Addictions and Mental Health Division, 2014) the standardization of TIC will help to guide policy and implementation initiatives (Bowen & Murshid, 2016). The TICS-10 is a valid, reliable, and efficient tool to measure Harris and Fallot's (2001) values of TIC in the service environment, and may play an instrumental role in the processes of system and organizational change.

Limitations

Similarly to the previous TICS studies (Hales, Kusmaul & Nochajski, 2017; Kusmaul, Wilson, & Nochajski, 2015), the major limitation involved sample homogeneity. The majority of study participants were Caucasian females holding either Bachelor's or Master's degrees, which is consistent with national reports of the direct service workforce, particularly in behavioral healthcare settings (Hewitt et al., 2008). However, there is a need to investigate whether the current findings are generalizable across diverse settings. It may be possible that the correlations within the scale items and between the TICS-10 and staff well-being measures, vary by demographic composition. For instance, race and gender may play important roles in shaping how staff members perceive the service environment around safety. While demographic variables cannot be changed, understanding how various groups experience the service environment can lead to more informed organizational change strategies. For instance, gender differences may exist in how each of the five values of TIC are prioritized, and in how each of

these values impact staff well-being, commitment to the organization, and ultimately their

interaction and effectiveness with clients. Understanding group differences can inform

organizational change strategies by prioritizing particular TIC values with specific groups.

Future Research, Policy, and Practice Directions

Future research directions involve testing the relationships among the TICS and measures

of staff well-being across different health and human service settings with diverse samples. The

majority of TIC outcome research has occurred within behavioral healthcare settings, and there is

a need to understand the effects of TI approaches across service settings. Additionally, there

needs to be continued research examining how trauma-informed approaches influence general

job performance and client outcomes. The research around the impact of TIC approaches,

particularly in settings outside of behavioral healthcare, remains extant. The introduction of the

TICS-10 should help achieve this aim, as it provides a viable, efficient, and methodologically

rigorous instrument to continue examining the efficacy of trauma-informed approaches.

Additional research directions also include designing a measure of client perceptions of

the service environment based on Harris and Fallot's (2001) five values of TIC. Hales, Kusmaul,

and Nochajski (2017) found that the values were interrelated. Kusmaul, Wolf, Sahoo, Green,

and Nochajski (2019) also found that client experiences of TIC also reflect interconnections

between the values, such as when changing a policy to enhance client safety reduces choice.

Having a quantitative measure of client experiences of the service environment would enable

researchers to examine the relationships between staff and client perceptions, ultimately leading

to a deeper understanding of how each contributes to organizational outcomes.

As policymakers strategize around implementing TIC within a diverse range of settings,

utilizing standardized instruments to ensure TIC is consistent across agencies is a critical process

in ensuring successful implementation. The TICS-10 may be used to ensure that organizational

leaders are creating TIC environments within their service agencies. Administrators may also use

the TICS-10 as an evaluative tool to examine their agency's climate for its consistency with TI

approaches. Administrators may also use the results of the TICS-10 to share with accreditation

bodies that are requesting evidence on the extent that their agency is trauma-informed. The

TICS-10 offers an extraordinarily efficient, valid, and reliable instrument that policymakers,

administrators, researchers, and evaluators can use across settings to assess TI climates within

agencies.

References

Allen, N. J., & Meyer, J. P. (1996). Affective, continuance, and normative commitment to the

organization: An examination of construct validity. Journal of vocational behavior, 49(3),

252-276.

Baker, C. N., Brown, S. M., Wilcox, P. D., Overstreet, S., & Arora, P. (2015). Development and

psychometric evaluation of the Attitudes Related to Trauma-Informed Care (ARTIC)

scale. *School Mental Health*, 8(1), 61-76. doi: 10.1007/s12310-015-9161-0

Bassuk, E. L., Unick, G. J., Paquette, K., & Richard, M. K. (2017). Developing an instrument to

measure organizational trauma-informed care in human services: The TICOMETER.

Psychology of violence, *7*(1), 150.

Bloom, S. L. (2012). Trauma-organized systems. In C. R. Figley (Ed.), *Encyclopedia of trauma,*

741-745. Retrieved from

http://www.sanctuaryweb.com/Publications/ListofPublications.aspx doi:

10.4135/9781452218595.n255

Bowen, E. A. & Murshid, N. S. (2016). Trauma-informed social policy: A conceptual framework

for policy analysis and advocacy. *American journal of public health*, *106*(2), 223-229.

Fallot, R. D. & Harris, M. (2009). *Creating cultures of trauma-informed care (CCTIC): A self-

assessment and planning protocol.* Washington, DC: Community Connections. Retrieved

from https://www.healthcare.uiowa.edu/icmh/documents/CCTICSelf-

AssessmentandPlanningProtocol0709.pdf

Gatz, M., Brown, V., Hennigan, K., Rechberger, E., O'Keefe, M., Rose, T., & Bjelajac, P.

(2007). Effectiveness of an integrated, trauma-informed approach to treating women

with co-occurring disorders and histories of trauma: The Los Angeles site experience. *Journal of Community Psychology*, *35*(7), 863-878.

Goodman, L. A., Sullivan, C. M., Serrata, J., Perilla, J., Wilson, J. M., Fauci, J. E., & DiGiovanni, C. D. (2016). Development and validation of the trauma-informed practice scales. *Journal of Community Psychology*, *44*(6), 747-764.

Guarino, K., Soares, P., Konnath, K., Clervil, R., & Bassuk, E. (2009). *Trauma-informed organizational toolkit*. Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration, the Daniels Fund, the National Child Traumatic Stress Network, and the W.K. Kellogg Foundation. Retrieved from http://www.air.org/resource/trauma-informed-organizational-toolkit

Hales, T. (2018) An inquiry into the necessary organizational conditions for effective human service delivery. (Dissertation). University at Buffalo, Buffalo, NY. Retrieved from https://ubir.buffalo.edu/xmlui/handle/10477/77970

Hales, T., Kusmaul, N., & Nochajski, T. (2017). Exploring the dimensionality of trauma-informed care: Implications for theory and practice. *Human Service Organizations: Management, Leadership & Governance*, *41*(3), 317-325.

Hales, T. W., Green, S. A., Bissonette, S., Warden, A., Diebold, J., Koury, S. P., & Nochajski, T. H. (2018). Trauma-Informed Care Outcome Study. *Research on Social Work Practice*, Online first. doi: 1049731518766618.

Hales, T. W., Nochajski, T. H., Green, S. A., Hitzel, H. K., & Woike-Ganga, E. (2017). An association between implementing trauma-informed care and staff satisfaction. *Advances in Social Work*, *18*(1), 300-312.

Harris, M., & Fallot, R. D. (Eds). (2001). *Using trauma theory to design service systems*. San

    Francisco, CA: Jossey-Bass.

Hopper, E. K., Bassuk, E. L., & Olivet, J. (2010). Shelter from the storm: Trauma-informed care

    in homelessness services settings. *The Open Health Services and Policy Journal, 3*(2),

    80-100. doi: 10.2174/1874924001003020080

Hendricks, A., Conradi, L., & Wilson, C. (2011). Creating trauma-informed child welfare

    systems using a community assessment process. *Child Welfare*, *90*(6), 187. Retrieved

    from http://www.chadwickcenter.org/CTISP/images/TICWPracticeToolkit.pdf

Hewitt, A., Larson, S., Edelstein, S., Seavey, D., Hoge, M. A., & Morris, J. (2008). A synthesis

    of direct service workforce demographics and challenges across

    intellectual/developmental disabilities, aging, physical disabilities, and behavioral health.

    Minneapolis, MN: University of Minnesota, Institute on Community Integration,

    Research and Training Center on Community Living.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis:

    Conventional criteria versus new alternatives. *Structural equation modeling: a*

    multidisciplinary journal, *6*(1), 1-55.

Institute for Health and Recovery. (2012). *Developing trauma-informed organizations: A tool kit.*

    Retrieved from http://healthrecovery.org/images/products/30_inside.pdf

Keesler, J. M. (2016). An evaluation of individual and organizational factors in predicting

    professional quality of life among direct support professionals in intellectual and

    developmental disability services. (Dissertation). University at Buffalo, Buffalo, NY.

    Retrieved from https://search.proquest.com/docview/1845023635?pq-origsite=gscholar

Koury, S. P., & Green, S. A. (2019). *Trauma-informed organizational change manual*. Retrieved

from http://socialwork.buffalo.edu/social-research/institutes-centers/institute-on-trauma-

and-trauma-informed-care/Trauma-Informed-Organizational-Change-Manual0.html

Kramer, T. L., Sigel, B. A., Conners-Burrow, N. A., Savary, P. E., & Tempel, A. (2013). A

statewide introduction of trauma-informed care in a child welfare system. *Children and

Youth Services Review*, *35*(1), 19-24.

Kruyen, P. M., Emons, W. H., & Sijtsma, K. (2013). On the shortcomings of shortened tests: A

literature review. *International Journal of Testing*, *13*(3), 223-248.

Kusmaul, N., Wilson, B., & Nochajski, T. (2015). The infusion of trauma-informed care in

organizations: Experience of agency staff. *Human Service Organizations: Management,

Leadership & Governance*, *39*(1), 25-37.

Miller, N. A., & Najavits, L. M. (2012). Creating trauma-informed correctional care: A balance

of goals and environment. *European Journal of Psychotraumatology, 3,* 1-8. doi:

https://doi.org/10.3402/ejpt.v3i0.17246

Morrissey, J. P., Jackson, E. W., Ellis, A. R., Amaro, H., Brown, V. B., & Najavits, L. M.

(2014). Twelve-month outcomes of trauma-informed interventions for women with co-

occurring disorders. *Psychiatric Services, 56,* 1213-1222. doi:

https://doi.org/10.1176/appi.ps.56.10.1213

National Council for Behavioral Health. (2013). *Trauma-informed care-top ten: A checklist for

behavioral health organizations*. Retrieved from

https://www.integration.samhsa.gov/clinical-practice/TIC_Flyer_web_2013_new.pdf

Oregon Health Authority, Addictions and Mental Health Division. (2014). *Trauma Informed*

    Services (AMH-060-1607). Retrieved from

    http://www.oregon.gov/oha/HSD/AMH/Trauma%20Policy/Trauma%20Policy.pdf

Putnam, S. P., & Rothbart, M. K. (2006). Development of short and very short forms of the

    Children's Behavior Questionnaire. *Journal of personality assessment*, *87*(1), 102-112.

Rammstedt, B., & Beierlein, C. (2014). Can't we make it any shorter? The limits of personality

    assessment and ways to overcome them. *Journal of Individual Differences*. 35(4), 212-

    220. Retrieved from https://doi.org/10.1027/1614-0001/a000141

Richardson, M. M., Coryn, C. L., Henry, J., Black-Pond, C., & Unrau, Y. (2012). Development

    and evaluation of the trauma-informed system change instrument: Factorial validity and

    implications for use. *Child and Adolescent Social Work Journal*, *29*(3), 167-184.

Richins, M. L. (2004). The material values scale: Measurement properties and development of a

    short form. *Journal of Consumer Research, 31*, 209-219.

Stamm, B.H. (2010). The Concise ProQOL Manual, 2nd Ed. Pocatello, ID: ProQOL.org.

Stanton, J. M., Sinar, E. F., Balzer, W. K., & Smith, P. C. (2002). Issues and strategies for

    reducing the length of self-report scales. *Personnel Psychology, 55,* 167-194.

Substance Abuse and Mental Health Services Administration [SAMHSA]. (2014). *SAMHSA's*

    concept of trauma and guidance for a trauma-informed approach (HHS Publication No.

    SMA 14-4884). Rockville, MD: Substance Abuse and Mental Health Services

    Administration. Retrieved from http://store.samhsa.gov/shin/content/SMA14-

    4884/SMA14-4884.pdf

Wolf, M. R., Green, S. A., Nochajski, T. H., Mendel, W. E., & Kusmaul, N. S. (2014). 'We're civil servants': The status of trauma-informed care in the community. *Journal of Social Service Research*, *40*(1), 111-120.

Yatchmenoff, D. K., Sundborg, S. A., & Davis, M. A. (2017). Implementing Trauma-Informed Care: Recommendations on the Process. *Advances in Social Work*, *18*(1), 167-185.

Yang, L-Q., Cauglin, D., Gazica, M., Truxillo, D., & Spector, P. (2014). Workplace Mistreatment Climate and Potential Employee and Organizational Outcomes: A Meta-Analytic Review From the Target's Perspective. *Journal of Occupational Health Psychology, 19,* 315-335. doi:10.1037/a0036905

Ziegler, M., Kemper, C. J., & Kruyen, P. (2014). Short scales – Five misunderstandings and ways to overcome them. *Journal of Individual Differences*, *35*(4), 185-189.