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Trauma-Informed Care
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Keywords: Trauma-informed care, trauma, commitment to change, organizational change, implementation

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This research is part of a dissertation study titled Foundational Knowledge and Other Predictors of Commitment to Trauma-Informed Care and is disseminated through ProQuest.

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Abstract

Objective: Organizations are identifying trauma-informed care (TIC) as a priority yet implementation is slow. Research suggests *commitment* to a change effort is an important predictor for change behavior; however, there is little theoretical or empirical evidence exploring commitment to TIC. This study examines the variables that predict affective commitment to TIC including foundational knowledge, principal support, self-efficacy, and beliefs about trauma. Does foundational knowledge independently predict affective commitment to TIC or is this relationship mediated by other variables? **Method:** Data were collected from 118 participants working in human services, using cross-sectional survey design. Participants completed self-report measures of affective commitment to TIC, foundational knowledge, principal support, self-efficacy, and beliefs about trauma. It was hypothesized that the relationship between foundational knowledge and affective commitment to TIC would be mediated through self-efficacy and beliefs about trauma, but not through principal support. Structural equation modeling was used to test the direct and indirect effects. **Results:** The findings support a partially mediated model with a direct effect between foundational knowledge and affective commitment to TIC (explaining 5% of the variance in affective commitment) and indirect effects between foundational knowledge and affective commitment through principal support, TIC self-efficacy, and beliefs about trauma. Altogether, the model explained 65% of the variance in affective commitment to TIC. **Conclusion:** This study contributes to both the organizational change literature and the growing TIC literature. As individuals and organizations work to implement TIC, these findings provide theoretical and practical implications for the field, addressing an important gap in research.

Knowledge, Principal Support, Self-Efficacy, and Beliefs Predict Commitment to Trauma-Informed Care

Substantial literature has documented the prevalence of psychological trauma among service users in numerous fields, including health, education, criminal justice, and human services (Ko et al., 2008). A strong case has also been made that service settings can be a source for re-traumatization (Fallot & Harris, 2009; Hopper, Bassuk, & Olivet, 2010). As a result of this awareness, many organizations and service providers are striving to become more trauma-informed and are embracing the ideals of trauma-informed care (TIC). However, despite interest and enthusiasm across disciplines, becoming trauma-informed can be difficult. At this point in its evolution, TIC implementation is not guided by a manual or fidelity measures, but rather, service providers and organizations are encouraged to review their policies and practices using a trauma lens, i.e., an awareness of the impact of trauma, and in light of the principles of TIC (Yatchmenoff, Sundborg, & Davis, 2017). To guide this process, the Substance Abuse and Mental Health Administration (SAMHSA, 2014) recommended six principles be reflected in organizational policy and practice: (a) safety; (b) trustworthiness and transparency; (c) use of peer support; (d) collaboration and mutuality; (e) empowerment, voice, and choice; and (f) consideration for cultural, historical and gender issues.

Challenges and Potential Mechanisms to Improve TIC Efforts

Guidance for the implementation of TIC remains conceptual; therefore, organizations must interpret and operationalize TIC principles based on their own settings and needs. Frameworks, toolkits, and assessments can offer some direction (Bassuk, Unick, Paquette, & Richard, 2017; Fallot & Harris, 2009; Hopper et al., 2010), but the lack of standardization in approach and strategies has resulted in slow progress. As a consequence, empirical evidence demonstrating

successful TIC efforts is sparse (Kusmaul, Wilson, & Nochajski, 2015). Nonetheless, many organizations are identifying TIC as a priority and are seeking information about how best to initiate and sustain implementation efforts.

Foundational TIC Knowledge

Acquiring foundational knowledge is often recommended as the first step when becoming trauma informed (Substance Abuse and Mental Health Administration [SAMHSA], 2014). Taylor, Conklin, and Brown (2012) noted that expert knowledge, especially as it relates to organizational change, provides a basis of influence for change agents and is an effective attribute of champions working to promote change. More specifically, Williams and Smith (2017) found that TIC related knowledge among clinicians and managers had a positive impact on their attitudes about TIC and their practice.

Across all fields, professionals are attending TIC trainings (Davis, 2017), yet adoption of TIC remains challenging, suggesting that successful implementation relies on more than mere training. In addition to concrete changes to policy and practice, TIC often requires a shift in beliefs and culture across the organization (Dinnen, Kane, & Cook, 2014). This type of transformational change can be difficult as deeply held beliefs become well rooted, forming the milieu of an organization. Hence, organizations, through their internal change agents and champions must first work to create buy-in and commitment for TIC (Fraser et. al., 2014; Hopper et al., 2010; SAMHSA, 2014).

Commitment to TIC

In order to understand what might create commitment for TIC, it is helpful to draw on the organizational change literature. Commitment to change reflects both a positive attitude toward change and the intention to make change successful (Herold, Fedor, & Caldwell, 2007).

Damschroder et al. (2009) noted commitment to change results from a sense of readiness that is demonstrated through resource and capacity building (e.g. training and education) as well as leadership support. Noting that commitment precedes and predicts behavior change (Ajzen, 2011), researchers have worked to understand the attitudes and intentionality captured by this construct (Herold et al., 2007).

Herscovitch and Meyer (2002) proposed a three-component model (TCM) of commitment to change that includes affective commitment, continuance commitment and normative commitment. Normative and continuance commitment tend to represent compliance and the obligation to commit, whereas affective commitment represents a desire and willingness for change. As Meyer, Stanley, and Vandenberg (2013) noted, when individuals show affective commitment they are willing to go above and beyond in order to ensure the change is successful. For transformational change such as TIC, commitment is necessary and affective commitment taps into the cooperating and championing motivation needed (Meyer, Srinivas, Lal & Topolnystsky, 2007).

Affective commitment has been studied as a predictor, mediator, and an outcome variable (see Bouckenooghe, Schwarz, & Minbashian, 2015) and has been shown to be associated with individual change behavior (Shin, Taylor, & Seo, 2012). In the current study, affective commitment is investigated as an outcome variable. Because affective commitment is likely an important step in the progression toward successful TIC implementation understanding the variables that predict affective commitment to TIC will help organizations as they work to adopt a trauma-informed approach.

Predictors of Affective Commitment

A number of factors have been shown to predict affective commitment to change including leadership style, peer support, and self-efficacy. In a study investigating a new patient service enhancement program, Conway and Monks (2008) showed that transformational leadership and communication positively related to affective commitment to change. The belief that leadership and peers (known as principal support) embrace the change is important when building commitment (Armenakis, Bernerth, Pitts, & Walker, 2007). In a study by Liu, Caldwell, Fedor, and Herold (2012), the authors noted that the perception of management support during the change process resulted in a positive outlook regarding the change in the mind's of staff. However, Santhidran, Chandran, and Borromeo (2013) found that transformational leadership did not predict affective commitment to change directly, but rather indirectly with a mediated path through self-efficacy.

Self-efficacy is a well-studied construct, both in its own right, and as it relates to commitment to change (Herold et al., 2007; Santhidran, Chandran, & Borromeo, 2013). Armenakis, Brown, and Mehta (2011) argued that believing in one's ability to carry out a change is an important step in the change process. When individuals within an organization believe they have the skills and knowledge needed, it increases their sense of self-efficacy (Sitzmann, Ely, Brown, & Bauer, 2010) and they are more likely to support the change (Solomons & Spross, 2011). However, in one of the only studies directly exploring commitment to TIC, Esaki, Hopson, and Middleton (2014) found perception of organizational commitment was predicted by support from leaders and peers (principal support), but not by self-efficacy. The authors investigated staff perception of agency commitment to TIC as outlined by the Sanctuary Model (Bloom, 2005) using the Organizational Change Recipients' Beliefs Scale (OCRBS; Armenakis et al., 2007).

The Current Study

The primary aim of the current study was to explore the relationship between foundational knowledge and commitment to TIC, both directly and indirectly through three other variables including principal support, self-efficacy, and beliefs about trauma. A mediation model was tested to determine the relationship between these variables. It was hypothesized that the relationship between foundational knowledge and affective commitment to TIC would be mediated through self-efficacy and beliefs about trauma. It was also hypothesized that principal support would predict affective commitment. However, given an unclear relationship with foundational knowledge, it was hypothesized that principal support would not be a mediating factor in the model.

Method

Participants

Solicitation was sent via email to 420 individuals who had recently participated in TIC trainings provided by the researcher when working as a trainer. Of those, 118 participants completed the anonymous online survey about TIC, a response rate of 34%.

Based on self-report, respondents were primarily female (73%) with an average age of 41 (ranging between 24-66 years). They represented public health, behavioral health, substance abuse, and early childhood, with 79% coming from behavioral or public health. Fifty-one percent worked in direct services, 12% worked in administrative and support roles, and 19% worked in management (including the roles of Director, Manager, or Supervisor).

Across roles, the participants reported a high level of experience, with more than one third endorsing 10 or more years. Fewer than 4% had two years or less experience in the field. Respondents were asked about previous training and/or exposure on the topics of trauma and

TIC from three sources: In-person training, webinars, and books. Face to face trainings were the most common method for acquiring knowledge (66% of respondents indicated “a lot” or “some” exposure) followed by books and other printed information (63% of respondents indicated “a lot” or “some” exposure). Forty percent had been exposed to the topics of trauma and TIC through webinars. One third of the sample indicated that they had very little or no prior training on TIC or topics related to trauma.

Measures

With permission from the instrument creators, “trauma-informed care” was inserted directly into all questions referencing “the/this/a change.” This alteration was made for questions measuring affective commitment, self-efficacy, and principal support. All measures, with the exception of foundational knowledge were scored using a 7-point Likert scale from 1=strongly disagree to 7=strongly agree. For the knowledge measure, items were scored on a 4-point Likert scale from 1=completely untrue to 4=complete true. The decision to use “true” instead of “strongly agree” is advised because of the cognitive nature of the questions (Fowler, 2013).

Affective Commitment to TIC. Commitment was measured using the six-item affective commitment subscale from Herscovitch and Meyer (2002). In the current study, Cronbach’s $\alpha = .94$. Example questions included “Trauma- Informed Care is a good strategy for this organization,” and “I think that management is [or would be] making a mistake by introducing Trauma-Informed Care” (reverse coded).

Foundational Knowledge. A measure of foundational knowledge about TIC was created for this study. Several resources were used to select the topics, including the Trauma Informed Oregon (TIO) Standards of Practice (<https://traumainformedoregon.org/standards-practice-trauma-informed-care/>), TIO foundational knowledge training materials, and the Educational

Policy and Accreditation Standards (EPAS) adapted for work with trauma survivors by the Council on Social Work Education (CSWE, 2012). Drawing from these sources, the knowledge assessment covered the following six topics: TIC implementation and principles; the neurobiology of stress and trauma; Adverse Childhood Experiences (ACE) research; work-related stress and trauma; systemic oppression and issues of power; and historical trauma including intergenerational transmission. Example questions included “I understand the reasons why individuals respond to trauma differently,” and “I know the principles of Trauma-Informed Care.” See supplemental materials for a complete list. There were thirty questions in total and knowledge was treated as a sum score. The internal consistency was Cronbach’s $\alpha=.96$.

Beliefs about trauma. The Beliefs about Trauma Scale was created for the current study. Eleven questions addressed the belief that trauma is prevalent, the belief that trauma affects brain processes and behavior, and the belief that engaging with services can re-traumatize service users and staff. Example questions included “Many of the clients served by our agency have a history of trauma,” and “Seeking and receiving services from our agency can be re-traumatizing for trauma survivors.” See supplemental materials for a complete list. Exploratory factor analysis using oblique (oblimin) rotation with factors fixed to one was used to determine acceptability of these items in one measure. The solution suggested 10 items combine to form the variable *Beliefs about Trauma*, explaining 40% of the variance. As a result of the exploratory factor analysis, beliefs about trauma was treated as an observed variable in the model. Beliefs about trauma had high reliability, Cronbach’s $\alpha = .81$.

TIC self-efficacy. The belief that we, as individuals and organizations, have the capacity and resources to successfully execute a change is at the heart of change related self-efficacy (Holt, Armenakis, Feild, & Harris, 2007). Self-efficacy was measured using the Readiness for

Organizational Change Scale (ROC; Holt et al., 2007). With historically good internal consistency (e.g., Cronbach's $\alpha=.82$ in Holt et al., 2007), Cronbach's $\alpha=.85$ in the current study.

Seven items were used to measure TIC self-efficacy. In addition to the original six-items in this scale, one question was added that stated "I have the knowledge that is needed to make Trauma-Informed Care work". This question was consistent with the original format that includes a question about having the skills needed to make trauma-informed care work. TIC skills and knowledge are necessary when delivering a trauma-informed approach; therefore, both aspects of practice were measured in the self-efficacy scale. Example questions included "When we implement Trauma-Informed Care, I feel I can handle it with ease" and "When I set my mind to it, I can learn everything that will be required when Trauma-Informed Care is adopted."

Principal support for TIC. Support from leadership and peers can significantly impact organizational change efforts (Liu, Caldwell, Fedor, & Herold, 2012) and predict commitment (Oreg et al., 2011). Principal support was measured using a six-item subscale from the Organizational Change Recipients' Beliefs Scale (OCRBS; Armenakis et al., 2007). In prior research, reliability of this scale has varied, Cronbach's $\alpha=.75$ (exploratory factor analysis), and Cronbach's $\alpha=.69$ (confirmatory factor analysis). Armenakis et al. (2007) noted this may be due to the inclusion of both leadership and peers in the same measure. Despite this concern, both peer and leadership influence was addressed in the current study as they are each thought to be important for TIC implementation. Cronbach's α for this study $=.84$. Six questions were used to measure principal support related to TIC. Two sample items are "Most of my respected peers have embraced Trauma- Informed Care," and "The top leaders support Trauma-Informed Care."

Data Analysis

An advantage of structural equation modeling (SEM) is its ability to test numerous variables

at the same time. To address the hypotheses, a five-factor structural path model was tested using AMOS 24 (Arbuckle, 2014). In addition to the chi-square difference statistic to test overall model fit, two common indices were evaluated including the root-mean square error of approximation (RMSEA) and the comparative fit index (CFI). Byrne (2016) noted RMSEA values below .05 and CFI values greater than .95 indicate good fit.

SEM assumes multivariate normality, an absence of outliers, and a lack of collinearity. For these data, exploratory data analysis suggested the only concern was multivariate non-normality. One method for handling non-normal data, and a strategy supported by AMOS, is the use of bootstrap resampling (Byrne, 2016; Kenny, 2016). For this study, 1,000 samples were drawn. This method is especially advantageous when testing mediated effects and the bias corrected confidence intervals can offer an additional assessment of fit.

Results

While most of the variables were strongly associated, affective commitment to TIC was significantly correlated with all of the variables in the model. The weakest bivariate relationships included principal support, e.g., the correlation between principal support and beliefs ($r = .171$). The response pattern across variables was generally high. Affective commitment was the most strongly endorsed with respondents moderately to strongly agreeing that they were committed to TIC ($M=6.28$, $SD=1.29$). Less than 10% expressed a lack of affective commitment to TIC. Responses were also generally high in terms of principal support ($M=5.13$), self-efficacy ($M=5.46$), and beliefs about trauma ($M=5.91$), where respondents endorsed mild to moderate agreement with the statements presented. Overall, respondents also endorsed a high level of knowledge ($M=3.22$), suggesting it is somewhat to completely true that they understand and/or

can explain the concepts related to TIC. Table 1. presents descriptive statistics for the variables in the model including means, standard deviations, and zero-order correlations.

Table 1.

Descriptive Statistics and Correlations of Study Variables

	Mean	SD	1	2	3	4	5
1. Commitment	6.28	1.29	1.00	.602**	.597**	.651**	.576**
2. Knowledge ^a	3.22	.51		1.00	.279**	.564**	.385**
3. PrinSupp	5.13	1.17			1.00	.459**	.171
4. Self-Efficacy	5.46	1.12				1.00	.497**
5. Beliefs	5.92	.71					1.00

Note. These values are reported at the item level in order to compare across scales. SD=standard deviation. PrinSupp = principal support.

^aKnowledge was measured using 4-point Likert scale. All other measures used a 7-point Likert scale.

** $p < .01$

Overall Fit

According to the model fit summary and indices, the hypothesized full model was not a good fit for the data, $\chi^2(3) = 34.55, p = .000$. However, modification indices (MI) identified improvement to the model by adding covariance between the error terms. Allowing error terms to covary is acceptable in cases where the correlation is due to systematic reasons such as similar response patterns from respondents (Gaskin, n.d.). In the current study, the variables (principal support, self-efficacy, and beliefs about trauma) measured compatible ideas related to TIC, e.g. leadership and peers support TIC, I have the skills and knowledge needed for TIC, and I have TIC congruent beliefs. It is reasonable to think respondents were answering the scale items similarly; therefore, the error terms were allowed to covary.

The re-specified model was a good fit for the data, $\chi^2(1) = .672, p = .412$; CFI=1.00; RMSEA=.000. Further, the model explained 65% of the variance in affective commitment to TIC. Figure 1. shows standardized estimates for all direct effects in the model.

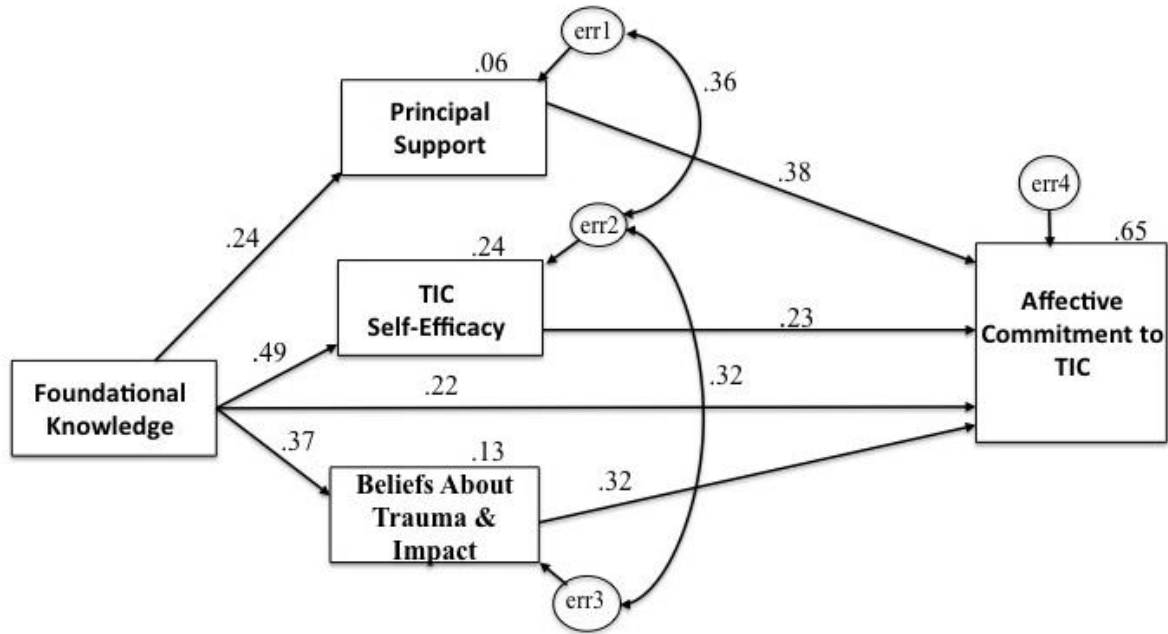


Figure 1. Standard estimates of re-specified model. Note: TIC = trauma-informed care.

Direct and Indirect Effects

In order to investigate the hypotheses in the study, mediation was tested following the guidelines of Baron and Kenny (1986). If mediation exists, the relationship between foundational knowledge and commitment to TIC should decrease or diminish entirely when the mediators are added into the model. In a model with only knowledge and commitment, a significant relationship was observed. When each mediator was added into the model separately, the relationship between knowledge and commitment decreased but remained significant which indicates the potential for a partially mediated path through principal support, self-efficacy, and beliefs about trauma. The direct effects between both knowledge and the mediators, and between the mediators and commitment to TIC were also significant satisfying an additional requirement for mediation analysis. Consistent with MacKinnon (2008), not only do the three indirect effects explain commitment, but knowledge continues to explain a unique portion of variance in commitment as well.

As expected, knowledge significantly predicted both beliefs (explaining 14% of the variance in this variable) and self-efficacy (explaining 24% of the variance in this variable). Surprisingly, the direct effect between foundational knowledge and principal support was significant ($\beta = .242$, $p < .01$), with knowledge explaining 6% of the variance in principal support. In light of this, the indirect pathway between foundational knowledge and affective commitment through principal support was included in the model.

The bootstrapped significance test for indirect effects showed a significant mediation of knowledge on affective commitment through all three variables. The mediated path through beliefs about trauma was the strongest, $\beta = .116$, whereas the path through principal support was the weakest although still significant, $\beta = .091$. Together, the indirect effects explained 10% of the variance in affective commitment. The total mediated effect (including the direct effect from knowledge to affective commitment), explained 30% of the variance in the model.

Table 2. provides a complete summary of standardized estimates, unstandardized estimates, and confidence intervals for the effects in this model.

Table 2.

Estimates of Direct and Indirect Effects

Effects	b (SE)	β (SE)	95% CI β
Direct effects			
Knowledge \rightarrow Affective (c')	.124(.042) **	.223 (.075)**	.081-.372
Knowledge \rightarrow Beliefs (a_1)	.181(.054) ***	.367 (.088)**	.175-.527
Knowledge \rightarrow SelfEff (a_2)	.273 (.047)***	.493 (.076)**	.343-.636
Knowledge \rightarrow PrinSupp (a_3)	.122 (.054)*	.242 (.108)*	.030-.453
Beliefs \rightarrow Affective (b_1)	.357 (.077)**	.316 (.078)**	.163-.460
SelfEff \rightarrow Affective (b_2)	.235 (.089)**	.234 (.087)**	.074-.409
PrinSupp \rightarrow Affective (b_3)	.413 (.077)***	.375 (.063)***	.249-.502

Indirect Effects			
Knowledge → Affective (a_1xb_1) ^a	.065 (.026)***	.116	
Knowledge → Affective (a_2xb_2) ^a	.064 (.028)**	.115	
Knowledge → Affective (a_3xb_3) ^a	.051 (.026)*	.091	
Knowledge → Affective full model	.179 (.048)***	.322 (.068)***	.191-.447
Total Effects			
Knowledge → Affective (c_1) ^b	.189	.339	
Knowledge → Affective (c_2) ^b	.188	.338	
Knowledge → Affective (c_3) ^b	.175	.314	
Knowledge → Affective full model	.304 (.063)***	.545 (.090)***	.349-.689
Covariance			
Err1 ↔ Err2	16.436 (4.22)	.365**	.190-.529
Err2 ↔ Err3	13.608 (3.83)	.324*	.101-.489

Note: *b*=unstandardized estimates, *β*=standardized estimates. Affective = affective commitment to TIC. SelfEff = self-efficacy. PrinSupp = principal support. The specific indirect effects were calculated using a user-defined AxB estimand in AMOS created by Gaskin (2016). These represent unstandardized estimates.

^aStandardized estimates calculated using the Sobel test (Sobel, 1986). Standard errors not available. ^bStandard errors were not available for specific total effects. AMOS provides standard errors for the full model only.

p*<.05 *p*<.01 ****P*<.001

Discussion

This study explored the variables that promote affective commitment to TIC. The findings support and extend existing research in three important areas. First, this study added to the organizational change literature by establishing an affective commitment toward TIC. Although this construct has been the focus of other research (see Bouckennooghe et al., 2015), this is the first study linking commitment to change with TIC. Results suggested affective commitment to TIC is high among participants in this study, which is not surprising given the fields represented by the participants. Behavioral health, public health, and early education are fields populated with trauma survivors (Briggs et al., 2013) thus professionals in these fields are well aware of the impact of adversity. Interestingly, participants with less experience and less training had higher scores on all variables in the model, including affective commitment. These findings, while counterintuitive, could reflect the fact that TIC is being incorporated into educational programs,

thus exposing service professionals to TIC related concepts early in their training (CSWE, 2012; Layne et al., 2011).

Second, these findings provide support that building knowledge is an important starting place when becoming trauma-informed. Knowledge is an important component in the change process and helps build awareness and understanding about why change is needed (Burke, 2017).

Experts in the field recommend training (and the acquisition of knowledge) as a first step when adopting a trauma-informed approach (Fallot & Harris, 2009; SAMHSA, 2014), and the findings suggest knowledge does increase commitment to TIC.

Third, by investigating affective commitment to change as a dependent variable, antecedents of affective commitment were identified. Results indicated that beliefs about trauma, TIC related self-efficacy, and principal support, are important considerations when building commitment to TIC. Following, is a brief discussion of each of these variables individually.

Mediating Variables

Beliefs about trauma. TIC congruent beliefs about trauma significantly predicted affective commitment, and mediated the relationship between knowledge and affective commitment. It could be that as we become more knowledgeable about TIC, we adopt TIC congruent beliefs. It is also possible that the beliefs included in this study are compatible with the service commitment in the fields represented by the participants (Gerdes & Segal, 2011). Substantial literature supports the understanding that beliefs and attitudes predict a change in behavior (Ajzen, 2011); therefore, this is a worthwhile area of focus when adopting TIC.

Self-efficacy. TIC related self-efficacy was also found to mediate the relationship between knowledge and affective commitment to TIC. The positive relationship between self-efficacy and

commitment to change is well-documented in the literature (Choi, 2011) as is the relationship between knowledge and self-efficacy (Baer et al., 2009).

Principal support. The relationships between knowledge, principal support, and affective commitment turned out differently than originally hypothesized. The positive direct effect between principal support and affective commitment was anticipated and is documented in the literature (Armenakis & Harris, 2009). Contrary to expectations, however, was the significant direct effect between knowledge and principal support, and the subsequent significant indirect effect between knowledge and affective commitment through principal support. This relationship is somewhat perplexing. Perhaps an increase in knowledge leads us to simply be more aware of coworker and leadership support, reflecting a correlated but not causal relationship? Or, possibly, as coworkers and leadership are, themselves, learning about TIC, they are actually demonstrating an increase in support. Although perceived principal support was measured at the individual level in the current study, it may be informative to investigate this construct at the work group or organizational level (see Limitations). It is well known in the organizational literature that work environments can create collective beliefs and attitudes, known as *emotional contagion* (Vijayalakshmi & Bhattacharyya, 2012), which in turn can create organizational culture and climate. For organizations struggling to put TIC into practice, identifying leadership champions may be the answer. This strong empirical finding highlights the importance of principal support as it relates to TIC commitment.

Limitations and Future Research

There are a number of limitations to this study, with the most important reflecting research design and methods. One of the primary concerns is the use of two non-validated scales, foundational knowledge and beliefs about trauma. Unfortunately, there are no validated

instruments measuring TIC knowledge and the only validated measure related to TIC beliefs (see the Attitudes Related to Trauma-Informed Care [ARTIC] Scale; Baker, Brown, Wilcox, Overstreet, & Arora, 2015) did not fit the theoretical direction of the current study. The knowledge and beliefs scales used in the present study were created based on expertise in the field (see description in Measures section); however, several limitations should be noted. Knowledge was measured subjectively (self-reported understanding) rather than objectively through the use of a test. This method of assessment has been associated with both under and over estimation of knowledge (Sitzmann et al., 2010). An important area for future research is considering the best method for testing knowledge and determining the information that is essential. Knowledge was also treated as a *total amount of*, without regard for any underlying latent structure. Exploring the factor structure of this construct in the future would be informative. Although exploratory factor analysis was conducted for the beliefs about trauma scale, due to limitations in sample size, the factor structure was not confirmed as part of this research. This is also an important area for future investigation.

The research design is also a limitation. With an absence of temporal information, cross-sectional survey data poses limitations to interpretation and generalizability. Furthermore, subjective and self-reported measures can introduce bias (Sitzmann et al., 2010). For example, the majority of respondents endorsed affective commitment to TIC, with nearly 47% of respondents selecting *strongly agree* for each question of the measure. This tendency could bias the pattern of results. Triangulating the data and using alternative research designs, e.g. experimental or longitudinal could improve generalizability.

Several issues regarding the sample may also hinder generalizability. First, the sample was fairly homogenous. The majority of respondents was female (73%) and worked for the same

health services organization (79%). The sample was also drawn from previous TIC trainings conducted by the researcher. Known as leniency bias, trainers can inadvertently lead participants to learn, think, and respond in a way that somehow helps the research (Podsakoff, MacKenzie & Podsakoff, 2012). To these points, the training was standardized and covered the foundational content that is presented at all TIC 101 or 201 trainings. All participants were exposed to the same content from the same trainer. Moreover, the survey was voluntary and administered electronically. Neither the organization nor the trainer knew who had participated.

Notwithstanding the attempt to control exposure to content, the participants differed by years of experience and prior training. These characteristics could impact the variables included in the current study and should be a focus for future research.

There are limitations with regard to the unit of analysis. All variables were measured at the individual level. Rafferty, Jimmieson, and Armenakis (2013) noted that change readiness should be measured at the individual, workgroup, and organizational levels, pointing out that individual readiness may be misleading in situations of low work group or organizational readiness. Change is complex and must be considered at multiple levels of an organization (Herold et al., 2007). Addressing these considerations will be an important next step for research.

In spite of these limitations, this study adds to the understanding of the role of foundational knowledge, perceived principal support, self-efficacy, and beliefs about trauma in creating affective commitment to TIC. The findings are relevant in practice and as guidance for future research. To better understand the relationships in this model, particularly the predictive or causal nature of the variables, it would be helpful to conduct further investigation using an experimental or longitudinal design.

Practical Implications

These findings contribute to the limited, yet growing body of literature on TIC implementation by identifying the variables related to TIC commitment and readiness. Individuals evaluate internal and external factors when considering change including the motivation for the change, the characteristics of leadership, and the organization's culture, climate, and commitment to resources. These variables are all important in creating individual readiness for change (Lehman, Simpson, Knight, & Flynn, 2011).

Based on the findings from this study, organizations working to implement TIC might be wise to pay attention to concepts such as perceived principal support, self-efficacy, and beliefs about trauma. Alongside foundational knowledge and skill building, ensuring leadership support is visible, champions are identified, and TIC congruent beliefs are fostered will aid in creating commitment to a trauma-informed approach.

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