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The Development of a Trauma-Informed Care Measure: Can Universal Precautions Address the Complexity of Trauma?

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THE DEVELOPMENT OF A TRAUMA-INFORMED CARE MEASURE: CAN UNIVERSAL PRECAUTIONS ADDRESS THE COMPLEXITY OF TRAUMA?

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DEDICATION

To my grandpa Tono

In loving memory

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by

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ABSTRACT

A system that is trauma-informed, recognizes how interpersonal, community, and organizational systems contribute to health outcomes. Currently, research on TIC has been unable to translate basic scientific findings of trauma to research studies that evaluate the implementation of TIC. As such, the field is unable to offer valuable recommendations to implement TIC in different settings. The present study aimed to develop a measure of TIC to be used in medical settings. The resulting measure was revised through qualitative feedback from individuals who have experienced trauma and tested with an online convenient sample. The measure was re-evaluated with a second sample to account for previous missing data problems. The study also evaluated if the measure of TIC was predictive of medication adherence. Findings and implications for each development phase are discussed.

Keywords: Trauma-informed care, ecological framework, universal approach

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

Trauma refers to the physical, psychological, and emotional response to an event (s) that is perceived by an individual as harmful or life threatening (SAMHSA, 2014). Trauma can stem from different experiences including childhood abuse or neglect, physical, emotional, or sexual abuse, accidents and natural disasters, grief and loss, witnessing acts of violence, cultural, intergenerational, and historical trauma, war and other forms of violence, and medical interventions (SAMHSA, 2014). An individual presenting symptoms of trauma may have intrusive memories, perceive the environment as dangerous, and have difficulty recalling aspects of the traumatic event and making decisions (Alford & Beck, 1997). In addition, they may experience sleep disturbances, somatization, digestive changes, high cortisol levels, hyper arousal, and health effects (Waldinger et al., 2006; Suzuki et al., 2014; Mellman & Hipolito, 2006).

The Health Effects of Trauma

Health effects of trauma have been documented by the CDC- Kaiser Permanente Adverse Childhood Experiences (ACEs) study, which found that exposure to childhood trauma is linked to risky health behaviors, chronic health conditions, and mental health challenges in adulthood (Koss & Marks, 1998). Follow-up studies provided substantial support for the onset of chronic diseases including autoimmune diseases (e.g., insulin dependent diabetes, systemic lupus, rheumatoid arthritis), cancer diagnosis, liver disease, and heart disease resulting from trauma (Dube et al., 2009; Brown et al., 2010; Brown et al., 2013; Dong et al., 2004). Furthermore, higher instances of ACE are associated with health risk behaviors such as smoking, substance abuse, sexual risk behavior and obesity (Strine et al., 2012; Williamson et al., 2002; Hillis et al., 2001; Ford et al., 2011).

Responding to Trauma in Behavioral and Health Settings

Inquiries of how institutions, organizations, or systems can provide better care for trauma survivors have contributed to what we now call "Trauma-Informed Care" (TIC). Although the concept of TIC has been evolving for more than 30 years, there is no scientific consensus on how to implement TIC nor is there support for its effectiveness (Becker-Blease, 2017). Proponents of TIC claim that implementing trauma-informed practices could improve patient medical adherence. That is, the extent to which a patient engages in a variety of treatment-related behaviors (Sebate, 2003). Medical adherence captures multilevel changes required for optimal health including those related to 1) the health care system, 2) social and economic factors, 3) patient health literacy, beliefs, and motivation, 4) type of therapy and duration, and 5) presentation and severity of the health condition (Sebate, 2003). Despite the magnitude of health-related behaviors, most research has focused on adherence to medication.

Medication adherence has received the most attention due to its association to poor clinical outcomes, morbidity, death, and health care costs (Alhazami et al., 2020). Medication adherence assumes three phases of the recommended regime including initiation, implementation, and discontinuation of the treatment (Lam & Fresco, 2015). According to the WHO, these phases are best measured using subjective and objective measures. Subjective measures refer to the evaluation of medication adherence using patient self-report and medical provider assessments. The predictive validity of these subjective measures increases when used with objective measures. Objective measures of medication adherence include pill count and electronic monitoring (Lam & Fresco, 2015). Although a multi-measure approach to medication adherence is the most appropriate, taking such approach may also be impractical and costly for clinical settings.

A well accepted measures of self-reported medication adherence is the Morisky Medication Adherence Scale (MMAS-8) (Morisky et al., 2008). The MMAS-8 measures medication taking behaviors related to barriers to adherence. Studies assessing the psychometric properties of the MMAS-8 report moderate to excellent internal consistency using pooled estimates of Cronbach's α ranging from .68- 0.91 (Moon et al., 2018). In addition, the MMAS-8 yields 93% sensitivity and 53% specificity (Lam & Fresco, 2015). Despite the sound psychometric properties of the MMAS-8, its use is limited to copyright restrictions to protect the commercial interest of the owners (Hays et al., 2018). Specifically, the MMAS-8 cannot be used, modified, translated, or adapted for another medium without permission from the owner. Several concerns have been raised by researchers after the owners have sent warning letters to researchers (including graduate students) and institutions asking to initiate a retroactive license worth thousands of dollars or face litigation (Park & Lee, 2019). Strict copyright restrictions of the MMAS-8 have led researchers to seek out other alternatives. Most importantly, these restrictions are a barrier for access and to build upon the existing research.

Guidelines Leading TIC Efforts

At the federal level, the Substance Abuse and Mental Health Service Administration (SAMHSA) developed guidelines to assist systems and organizations in becoming trauma-informed (SAMHSA, 2014). Similarly, clinical psychologists and leaders in trauma research created a self-assessment and planning protocol to encourage and support the formation of organizational cultures following TIC guidelines (Harris & Fallot, 2001). The two protocols share four core values 1) safety, 2) trustworthiness and transparency, 3) empowerment and choice, and 4) collaboration and mutuality. SAMHSA'S guidelines also incorporate two additional principles, peer support and recognition of cultural, historical, and gender issues, as

additional core values. These principles were developed based on theoretical grounds and clinician expertise.

Translating the Six Principles of TIC to Medical Practices

The translation of these principles in medical settings remains unclear despite trauma survivors being frequent visitors of the emergency room (Raja et al., 2015). This is concerning considering that the nature of many traumatic events may compromise body integrity and can resemble the vulnerability of some medical procedures and interventions. The resemblance of both events may contribute to medical non-adherence (Raja et al., 2015). TIC guidelines offer considerations to translate the principles into practice.

Safety

This principle aims to establish physical and emotional safety across the organization. That is, the organization's facility promotes a physical environment that is easy to navigate by providing clear exit signs and sufficient space for patients and family. In addition, interpersonal interactions with clinical and non-clinical staff promote safety by being respectful and ensuring confidentiality (SAMHSA, 2014).

Trustworthiness and Transparency

Tasks and procedures are clear, consistent, predictable, and interpersonal boundaries are in place (Harris & Fallot, 2001). Patients with a history of trauma may become distressed due to the nature of some medical examinations or procedures. These procedures and/or examinations may be invasive, involve bodily sites of abuse, and may trigger memories of traumatic events (Reeves, 2015). This principle could translate into practice by informing the patient about what procedure will be done. In terms of examinations, medical staff can guide patients' step-by-step

as to what will happen and provide written information with more detailed explanations of the purpose of procedure.

Collaboration and Mutuality

The organization understands the imbalance of power that is often associated with traumatic experiences and aims to establish a partnership between client and organizational staff (SAMHSA, 2014). This principle recognizes the importance of interpersonal relationships and shared decision making in healing trauma. A TIC approach recognizes that everyone at the organizational level has a role in the healing of trauma. In medical settings, this principle may be implemented by engaging in collaborative and non-judgmental discussions of health behavior change (Raja et al, 2015; Harris & Fallot, 2001).

Empowerment and Choice

The organization aims to give clients a voice and choice to empower them through advocacy and skill building (SAMHSA, 2014). That is, patients are given a safe space to voice their needs and concerns during treatment planning. For example, a patient may be more at ease during a medical visit if they are given the choice to only take off pieces of clothing that would interfere with medical examination instead of removing all pieces of clothing. Another example is giving patients the choice of having other people in the room or keeping the door closed/open (Raja et al., 2015). In addition, patients may be given referrals that could be complementary to treatment by empowering them through skill building (e.g., support groups for HIV management).

Peer Support "Trauma Survivors"

Implementing a TIC approach recognizes the importance of including the voice of trauma survivors to be able to establish safety and hope (SAMHSA, 2014). While TIC is a universal

approach that clients with no traumatic experiences can benefit from, receiving input while crafting organizational protocols and policies can better help serve and retain this population in care.

Cultural, Historical, and Gender issues

Practices and policies commit to abstain from cultural stereotypes and biases and aim to provide gender responsive services (SAMHSA, 2014). Moreover, protocols and policies are culture and gender responsive. An example is ensuring that medical paperwork is inclusive of gender identity and allows patients to identify outside of a binary scale.

Overall, it makes intuitive sense that patients with or without histories of trauma could benefit from practices that align with these principles. However, it would be erroneous to assume the value of these principles without establishing empirical grounds. More importantly, while the clinical experiences of professionals are important to conceptualize how these principles may benefit trauma survivors, the most valuable feedback will come from trauma survivors themselves. To our knowledge, no studies have attempted to confirm the relevance of these six principles from the perspective of trauma survivors.

Literature Gaps

Trauma informed services acknowledge the prevalence of trauma and recognize how the effects of trauma can influence a patient's perception of the environment and behavior (Poole & Greaves, 2012). Compared to trauma-specific services (TSS), trauma-informed care practices do not treat trauma. Instead, they aim to create an environment that fosters sensitivity when treating patients that display symptoms of trauma. Systems that re-evaluate their policies and practices to align with their knowledge and competence of trauma are capable of sustaining "trauma-specific" services that may develop in the future (Jennings, 2004). Trauma-specific services

include evidence-based treatment models to treat the effects of trauma. The sustainability of trauma-specific services is not possible if implemented in a setting that is not trauma-informed. The lack of a clear distinction between TIC and TSS has hindered the emergence of novel research to inform organizational practices, policies, and culture that align with the six principles of TIC (DeCandia & Clervil, 2014; Jennings, 2004).

The ecological framework of TIC demands shifting the focus from individual illness to a broader understanding of how environmental factors impact recovery including the social determinants of health and how interpersonal, community, and organizational systems are vital aspects of healing (DeCandia & Guarino, 2015). Failing to distinguish TIC and TSS has sustained the focus on the individual and thus contributed to the lack of shared accountability in healthcare.

The field of TIC is currently experiencing two translational blocks in the clinical research continuum (Sung et al., 2003). The first translational block is the field's inability to translate basic scientific findings to human studies. That is, despite the contribution of the ACES study and the supporting articles that followed, the field has not been able to translate what is known about trauma into the development of new programs or practices that can be evaluated through research. The second translational block refers to the inability to translate the results of said research studies into aspects of implementation including policies, practices, large scale use, and sustainability (Sung et al., 2003; Peters et al., 2013)

A review by Mahon (2022) illustrates these translational blocks and suggests implementation research is still at an early stage. Mahon's literature identified learning areas about the practice and implementation of TIC in organizations and communities. The 22 articles included in Mahon's (2022) review consisted of case studies *(n*=5), quantitative methods *(n*=4),

qualitative methods *(n*=7), mixed methods *(n*=6), longitudinal studies *(n*=1), and evaluations *(n*= 4). Most research studies consisted of interviews, focus groups, or case studies exploring the facilitators and barriers to implementing TIC, including staff perception and resistance, and client perception of care (Mahon, 2022). Out of the four studies that implemented quantitative methods, only two studies tested empirical models of the impact of TIC on service user outcomes (Shier & Tuplin, 2022; Hales et al., 2019).

The models provided partial support for the impact of TIC on service-user outcomes. The first model by Shier and Tuplin (2022) developed a trauma-informed scale to assess the organizational environment for practices that align with safety, trust, choice, collaboration, and empowerment. The outcomes of interest were intrapersonal development outcomes (self-awareness, outlook, coping ability, self-worth, and self-determination), as measured by the Interpersonal Development Social Outcomes scale and levels of substance use, measured by the GAINs-SS questionnaire. The scores from the safety subscale from the Shier and Tupin (2022) measure was the only subscale that predicted decreased in disordered behavior. In terms of social development, the empowerment subscale scores positively predicted all client intrapersonal outcomes. Similarly, trust positively predicted all social development outcomes compared to the rest of the subscales (safety, choice, and collaboration) which failed to significantly predict social development outcomes (Shier & Turpin, 2022).

The second model tested by Hales and colleagues (2019) examined the impact of TIC on client satisfaction and treatment retention. The Institute on Trauma and Trauma-Informed Care (ITTIC) collaborated with a non-profit residential treatment organization to evaluate the trauma-informed climate, procedures, policies, and practices. After the initial evaluation, the non- profit organization received training on TIC and later revised policies and procedures that were not in

alignment with TIC. Organizational climate was assessed using the Trauma-informed Climate Scale (TICS) to measure staff perception of the work environment. Organizational policies, procedures, and practices were assessed using the Trauma-Informed Organizational self-assessment instrument (Hales et al., 2017). Finally, client satisfaction was assessed using an instrument created by the organization and client treatment retention was measured by discharge status. Planned discharge indicated successful treatment completion and unplanned discharge indicated treatment drop-out.

The results of this study indicated that post implementation of TIC staff perceived the work environment to be in alignment with TIC principles. Similarly, self-assessment scores of organizational policies, procedures and practices improved in all areas. In terms of client satisfaction post TIC implementation, clients reported a decrease in safety at 30 days of treatment and reported increased satisfaction on staff's problem-solving abilities at 90 days. Finally, the organization had a significant decrease in treatment drop-out and a significant increased on successful treatment completion (Hales et al., 2019).

As illustrated by both studies, the existing measures of TIC focus on broader systems to assess the impact of education, training, leadership, and stakeholders on the operationalization and implementation of TIC (Mahon, 2022). Other measurement tools focus on individual outcomes like satisfaction, knowledge, attitudes, commitment, or psychosocial factors among service users, practitioners, and staff. Currently, the Trauma-Informed Organizational Environment scale is the only measure that assesses whether organizational practices align with the conceptual work of trauma informed practices proposed by Harris and Fallon from a service user perspective (Shier & Turpin, 2022). However, this tool is limited to items tailored to measure organizational dynamics from a substance abuse treatment standpoint (e.g., an example

item reads “when triggered I have been able to leave group or individual therapy). As such, the measure cannot be used in settings outside of populations recovering from addiction in a treatment setting or related mental health program. These findings suggests that there are currently no existing measures of TIC that assess the medical environment for TIC adherence from the perspective of patients. Such tool is needed to aid medical settings in identifying practices and policies that don’t align with a TIC approach

The Present Study

Often, the first sector that trauma survivors encounter is primary care or the emergency room. As such, health care providers should be able to understand and recognize the symptoms of trauma to establish patient-provider relationships that promote service engagement and treatment adherence (Nandi et al., 2018). Given that TIC literature on medical settings has been limited to white papers and studies that focus on staff attitudes and readiness to implement TIC, the purpose of the present study is to validate a scale that measures implementation of TIC practices from a patient perspective. Low scoring areas can inform training needs and identify practices and policies that are not responsive to needs of patients with histories of trauma. The present study proposed the following aims.

Aim 1 of the current research effort refined a measure of TIC that was tested in a preliminary study. Aim 1 was executed by consulting with the target population on item clarity, representation, and relevance. In addition, new items were developed by inquiring about the medical practices and policies that promote safety, trustworthiness, personal choice and empowerment, collaboration and mutuality, peer support, and that are sensitive to cultural, historical, and gender issues. It was hypothesized that H1) items would be coherent,

comprehensive, and relevant, H2) items would accurately represent the six principles of TIC, and that H3) emerging themes would prompt additional item-development.

Aim 2 evaluated the psychometric properties of the revised scale and sought to establish instrument validity. Aim 2 examined whether a factor analysis of the measure would suggest a 2-factor structure supporting the results of the pilot study or a 6-factor structure that aligns with existing models of TIC. It was hypothesized that H4) the factor analysis would yield a 6-factor structure after implementing participant feedback, and that H5) the scale would yield psychometric properties indicative of good scale reliability and validity.

Aim 3 examined whether the resulting scale is predictive of self-reported medication adherence. It was hypothesized that H6) quality implementation of TIC practices would predict high medication adherence after controlling for social support and depression.

CHAPTER 2: PILOT STUDY FOR PRELIMINARY INSTRUMENT VALIDITY

A preliminary study was conducted to develop and test the validity of a TIC scale as a predictor tool of self-reported medication adherence. Medication adherence was the only treatment related behavior measured due to its association to clinical outcomes, morbidity, death, and health care costs. This scale aimed to measure participant perceptions toward TIC principles and consisted of 28-items that were created based on guidelines addressing protocols and service delivery at the organizational level. Two variables were identified as predictors of medication adherence and were controlled for when assessing the predictive validity of the TIC scale. Research suggests that significant predictors for medication adherence include depression and social support (Dimatteo et al., 2000; Jin et al., 2008; Dimatteo, 2004). That is, depressed patients are three times more likely to be non-compliant with medical recommendations than non-depressed patients (Dimatteo et al., 2000). In addition, patients who report having a cohesive family, are married, or live with a romantic partner tend to be more adherent to medical care (Jin et al., 2008). Patients with no insurance and low income are more likely to be non-compliant. However, even patients that have insurance struggle to adhere due to high health expenses (Dimatteo, 2004). As such, it was hypothesized that favorable attitudes toward TIC principles would be predictive of self-reported medication adherence after controlling for depression, social support, and cost/insurance status.

Methods

The preliminary study aimed to take the first step in validating a TIC measure that could potentially be used in medical settings. Moreover, the approach to analysis included basic descriptive statistics, examining Pearson correlation to assess construct validity, a hierarchical

regression to assess predictive validity, assessment of test score reliability, and an exploratory factor analysis to assess factorial validity.

Sample

A total of N=225 college students were recruited using SONA systems. SONA is a cloud-based subject pool software used to recruit participants and track participation credits. The subject pool in SONA are strictly undergraduate students taking a psychology course. The only inclusion criteria were for participants to be at least 18 years of age and did not include special-class groups.

Measures

Demographic, Medical and Social Status Questionnaire. Participants were asked questions on their gender, age, ethnicity, marital status, and sexual orientation. In addition, participants were asked questions about the last time they received medical care, the type of medical care that was last used, status of medical insurance, and socioeconomic status.

Social Support. Social support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS), which is a self-report tool that measures perceptions of support from family, friends, and significant others (Zimet et al., 1988). The sample of this study yielded excellent reliability for the MSPSS (12 items; $\alpha = 0.91$).

Depression. The Patient Health Questionnaire Depression Scale (PHQ-9) was used to screen for depression and symptom severity (Spitzer et al., 1999). The sample of this study yielded excellent reliability for the PHQ-9 (9 items; $\alpha = 0.86$).

Trauma Informed Care. Participants were asked to rate items that aimed to measure the principles of a TIC on level of importance to them.

Medication Adherence. Given the limitations to use MMAS-8 due to its copyright restrictions, an alternative measure of medication adherence was used. Participants were asked questions about their behavior regarding medication intake using the Rief Adherence Index (RAI; Glombiewski et al., 2012). Lower scores indicate medication adherence, and higher scores indicate medication nonadherence. The sample of this study yielded acceptable reliability for the RAI (4 items; $\alpha = 0.73$).

Procedure

Participants were able to view a description about the study including purpose, time of completion, and study sign-up options. Upon consenting to participate in study, participants were prompted to begin the survey and were presented with the five measures. Measures were counterbalanced to control for order effects except for the demographic questionnaire which was presented at the end.

Analyses

Hierarchical regression analyses were conducted to predict medication adherence from patient perceptions of TIC while controlling for depression, social support, and income/insurance status. In addition, Pearson correlations were used to evaluate the relationship between all five measures and Cronbach's alpha was used to assess level of reliability for each scale. Finally, an exploratory factor analysis (EFA) was conducted to assess the factor structure of the TIC scale (table 1.1). Robust maximum likelihood estimation was used to account for item non-normality in M*plus* (Muthén, 1997). The factor solution was rotated using geomin rotation to assist in factor interpretability.

Results

The RAI scale yielded a moderate reliability. This was expected given that scale only has four items (Morera & Stokes, 2016). To further evaluate the RAI scale, a confirmatory factor analysis was conducted. The fit indices suggested a good model fit $X^2(2, N= 225) = 1.432, p > .05$. RMSEA was 0.000 90% CI [0.00, .120], CFI= 1.00, and SRMR=0.018. The model fit was expected given the small degrees of freedom.

The results of the EFA on the developed TIC measure suggested that a two-factor model provided the best model fit. As a rule of thumb, items that load at least 0.40 onto one of the factors should be retained. However, the study retained items with loadings of 0.375 and above and any items with lower loadings were removed from the measure. As such, TIC17, TIC19, TIC20, and TIC 21 were removed and two subscales were created. The estimated inter-factor correlation between factor 1 and factor 2 was 0.384. Reliability estimates were indexed utilizing Cronbach's alpha. Test score reliability from the items making up Factor 1 was found to have a reliability estimate of .935 and test score reliability from the items making up factor 2 yielded a reliability estimate of .871 (Table 2.1).

Table 2.1
Summary of Exploratory Factor Analysis for a 2-Factor Solution of TIC

TIC Item	Factor Loading	
	1	2
1. Signs in the medical room and waiting room area are clear	**0.454***	0.049
2. Magazines available in the waiting room have appropriate content.	0.093	**0.414***
3. There are easily accessible exits throughout my visit.	**0.517***	0.137
4. My interaction with receptionist is always respectful.	**0.690***	0.058
5. Confidentiality is maintained in reception and waiting room areas.	**0.795***	-0.081
6. There is adequate personal space available in medical room and waiting area.	**0.636***	-0.027
7. I am informed about what areas of my body will be examined before examination begins.	**0.767***	0.011
8. I am informed about the purpose of each examination.	**0.740***	0.015
9. I am given written information about suggested treatment(s).	**0.645***	0.119
10. Doctor demonstrates interest in what I have to say.	**0.829***	-0.032
11. Doctor maintains boundaries at all times by being respectful and professional.	**0.813***	-0.095
12. My doctor and I collaborate in decision-making.	**0.614***	0.125
13. I am given different treatment options.	**0.577***	0.012
14. My preferences are taken into account for treatment options.	**0.646***	-0.052
15. I am given the choice to maintain door open.	0.194	**0.441***
16. I am given the choice to have someone else in the room.	0.253*	**0.376***
17. I am asked about my personal preferences to make my visit more comfortable.	0.284*	0.364
18. My strengths and skills are recognized.	0.007	**0.527***
19. I am given positive affirmations.	-0.004	0.311
20. My doctor validates my concerns.	0.058	0.021
21. The nurse validates my concerns	0.004	-0.017
22. I am given appropriate referrals to build my skills.	0.198	**0.401***
23. I am asked about the pronouns I identify with (He/him, she/her, they/them).	-0.155	**0.914***
24. I am not called insulting names at any point during my visit.	**0.632***	0.107
25. Forms allow me to identify as other than male or female.	-0.127	**0.832***
26. Quality of service is the same across patients.	**0.785***	0.029
27. I am treated with same courtesy as others.	**0.789***	0.014
28. I am not unfairly denied service or treatment.	**0.740***	-0.175
Eigenvalues	8.47	2.82
% of variance	30.26%	10.07%

A hierarchical regression determined that the TIC scale was predictive of medication adherence (Table 2.2). The first step of the regression included gender and insurance. The second step included the depression (PHQ9) and social support (MSPSS) scales. Finally, the third step contained the two subscales of the TIC scale. The results indicated that gender and insurance accounted for 0.8% of variability and the model was not statistically significant ($p > .05$). The model that included the depression and social support scales was statistically significant ($p < .05$) and accounted for an additional 8.2% of explained variability. Finally, the TIC subscales were also statistically significant ($p < .05$) and accounted for an additional 33.1% of variability. Factors 1 and 2 were predictive of medication adherence. Endorsement of items in factor 1 predicted non-adherence while endorsement of items in factor 2 predicted high adherence.

Table 2.2

Regression Analysis of TIC predicting Medication Adherence

			95% CI			
Variable	ΔR^2	B	LLCI	ULCI	β	p-value
Step 1	.008					
Gender		.040	-.789	.869	.006	.925
No insurance		-.172	-1.011	.667	-.028	.686
Medicaid		.266	-.951	1.483	.030	.667
Other Insurance		1.010	-.816	2.835	.075	.277
Step 2	.082**					
PHQ-9		.097	.037	.157	.216	.002
MSPSS		-.030	-.061	.001	-.129	.058
Step 3	.110**					
TIC Factor 1		.036	.002	.069	.163	.036
TIC Factor 2		-.051	-.095	-.008	-.174	.021

Note. PHQ-9 = Depression; MSPSS= Social Support

Findings and Implications

The pilot study did not yield the expected six-factor solution to represent SAMHSA's six principles to a TIC approach: 1) safety, 2) trustworthiness & transparency, 3) peer support, 4) collaboration and mutuality, 5) empowerment & choice, and 6) cultural, historical & gender

issues. The factors were not labeled as both represented the same principle of TIC and there is no current information on TIC to distinguish between both factors.

Items 12-14 from factor one and items 15-17 from factor two intended to depict practices that promote choice and control for patients. Similarly, items 24, 26, 27, 28 from factor one and items 23, 25 intended to depict practices that recognize cultural, historical, and gender issues. This is not to say that items loading on each factor don't have anything in common, but that there is no support in TIC literature to identify the appropriate construct that these items represent. In addition, it is unclear why endorsement of factor one is predictive of non-adherence. It is possible for endorsement of these items (signifying these practices are important to the individual) does not guarantee that the participant has experienced these practices in a medical setting. As such, the relationship of factor one and non-adherence may simply suggest that the participant may benefit from receiving care that implements TIC practices. However, upholding this conclusion would invalidate the expected relationship of factor two and adherence. As a result, further studies were performed to enhance the TIC measure. These studies adopted a mixed methods approach that incorporated qualitative data from individuals who experienced trauma. This qualitative data then informed the development of a revised measure of TIC.

CHAPTER 3: METHODS FOR PHASE I OF THESIS STUDY

Qualitative Portion

Aim 1 was addressed using a qualitative method design to gather participant feedback on item clarity, representation, and relevance through semi-structured interviews. In addition, participant insight was used to improve and develop items. An important concern in the development of psychological assessment tools is to establish validity by ensuring that the tool adequately measures the construct of interest (Haynes et al.,1995). Among content validation procedures is consulting with members of the target population through focus groups or interviews (Vogt et al., 2004). Researchers often seek expertise from researchers and clinicians and fail to account for the expertise of the target population (Messick, 1995). Members of the population can provide valuable information for item-development, clarity of items, and adequate representation of construct (Messick, 1995). Semi-structured interviews was the selected approach as it is a form of qualitative data collection that provides researchers with a rich understanding of the individual's experiences.

Participants

A total of eight semi-structured interviews were conducted to reach consensus among the homogeneous group. Participants received a $25 gift card for their participation based on the standard compensation in health and social research (Cheff, 2018). Participants were eligible to participate if they identified as a trauma survivor and were at least 18 years of age. Participants unable to provide consent, younger than 18 years of age, or who did not identify as trauma survivors were not eligible to participate.

Procedure

Participants were recruited via e-flyers posted in trauma survivor forums. Given the low response rates of the online recruitment, flyers were also distributed to local agencies in El Paso, Texas that provide services to trauma-survivors. Despite these recruiting efforts, response rates continued to be low. Recruitment could have been impacted by the effects of the COVID-19 pandemic. Many local agencies had to transition to no face-to face contact services for approximately a year. Agencies slowly started to transition back to in person services but continued to have limited interactions with clients. Recruitment was the highest and fastest using prolific. Data collection was completed within a week and a half after posting the study in Prolific. However, it is important to note that the initial proposal was modified to account for participant reluctance to enroll in the study. The qualitative portion of the study was meant to hold focus groups and was modified to individual semi structured interviews. This change aimed to improve potential confidentiality concerns and to promote safety. The changes were effective at improving participant enrollment.

Participants interested in participating were directed to an interview proposal sheet that included details of the study, rationale and goals of the study, participant rights, topics for discussion and a videoconference disclaimer. If participants agreed to continue, they were presented with a screening to determine study eligibility. Screening results were not used to determine existence of a disorder or severity of trauma symptoms. A positive screen indicated the presence of a traumatic event (s) using the Trauma History Questionnaire (Hooper et al., 2011), indicated self-reported emotional/physical distress after traumatic event, and indicated that participant was at low or no risk for self-harm, suicide or violence. Eligible participants were presented with a consent form and were asked to provide contact information for scheduling and compensation purposes.

Individual semi-structured interviews were conducted and recorded via Zoom. The principal investigator began by building rapport with participants as part of the semi-structured interview protocol. Rapport building consisted of introductions, a discussion of the purpose of the interview, reminder to not discuss personal accounts of trauma for their safety, space for questions and concerns, and creating guidelines for a safe environment. Part 1 of the interview lasted about 45 minutes and consisted of open-ended questions. The semi-structured interview was structured by 6 areas representing each of the principles of trauma informed care.

Participants were first be asked to provide insight of their understanding of the principles of TIC based on their medical experiences (Appendix B). After completing part I , participants were directed to complete a questionnaire for part II of the study. Participants were asked to rate items on a 7-point Likert-scale based on item clarity, relevance, and representation of construct (Appendix B). In addition, participants were prompted to provide written feedback on how to improve the item. Given that a score of 12 is considered a midpoint, items receiving a score of 12 or less were deemed problematic.

Analyses

Coding protocol. The coding manual for the qualitative portion of the study was adapted from *The Coding Manual for Qualitative Researchers, 3rd Edition* (Saldaña, 2021). The study used a combination of affective coding methods to analyze the qualitative data. Affective methods investigate the human experience, including emotions, values, conflicts, and judgments. Moreover, these qualities can help researchers learn about motives for behavior, reactions, and interactions with others. The study implemented evaluation coding to assign judgments about the significance of practices and policies from the participants' perspectives. The evaluation codes

were based on the six principles of TIC. The coding system included all questions from the interview to structure the evaluation.

To further meet the needs of the study and its data analysis, an eclectic combination of magnitude, descriptive, sub-coding, and recommendation coding tags were applied. Magnitude coding added a symbolic code to indicate the evaluative content of a text (POS= positive, NEG= Negative, NEU= Neutral, MIX= Mixed, and BLANK= no evaluative comment). Descriptive coding complimented the use of magnitude coding by assigning a label to summarize the evaluated topic. Descriptive codes consisted of descriptions of each of the principles of TIC. For example, an evaluation of the principle of safety could include, although not limited to, "waiting room," "examination room," or "medical provider" as potential descriptive codes. While descriptive codes could overlap across the six principles, sub-coding was used as a second-order tag to provide further detail and uniqueness to an area. For example, if a primary descriptive code was "pronouns," a potential subcode could be "assumptions." Finally, recommendation coding tags were used to identify a specific action for improvement. According to Saldaña (2021), recommendation codes can be categorized by personnel or topic (REC: give alternative treatment). The study followed the four processes recommended by Saldaña to analyze the data. First, we conducted an initial analysis of the data and its patterns. Second, we interpreted the significance of the data. Third, we evaluated the results based on the topics identified by the primary and secondary codes. Finally, a recommendation for action was created.

Training. The first phase of training involved understanding and recognizing the principles of TIC. The research assistants read two academic articles about TIC and discussed the content with the principal investigator. The principal investigator clarified questions about the differences and overlapping characteristics of the principles and discussed the importance of

implementation across different levels of care in medical settings. The research assistants were then provided a worksheet containing four scenarios about individuals describing the quality of care they received in the past. Research assistants read each scenario and coded for the presence of one of six codes: 1) safety, 2) trustworthiness and transparency, 3) Peer support, 4) collaboration and mutuality, 5) empowerment and choice, and 6) cultural, historical, and gender issues. The research assistants and principal investigator discussed differences in coding.

The second training phase introduced the undergraduate research assistants (URAs) to the coding manual and the qualitative coding methods to be used. For every coding method description, there was an applied fictional example. After the research assistants became familiar with the coding methods, the principal investigator reviewed these methods with them and answered questions about each of the examples. For approximately two weeks, research assistants were tasked with familiarizing themselves with the coding manual. The manual included a list of materials for coding, step-by-step directions, rules, and considerations.

The third training phase involved applying what they had learned in the first two training phases. URAs and the primary investigator coded a full interview transcript without consultation and completed a coding worksheet with their final codes. After completion, the principal investigator and research assistants met to discuss the codes. This phase also allowed the researchers to discuss issues with the coding frame before commencing the independent coding with the rest of the data in preparation for an independent coding reliability assessment. Intercoder reliability is not only a measure of objectivity, but an opportunity to identify areas that require clarification before a second round of coding begins (O'Connor and Joffe, 2020).

For the first round of coding, the two research assistants coded 24 participant responses. That is, for every question of the interview, URAs identified all positive, negative, neutral, and

mixed judgments made by the participants and any potential recommendations the participants may have made. The study used the Intra-class Correlation Coefficient (ICC) as an index to evaluate interrater reliability. The ICC for the first-round coding was 0.70, indicating moderate reliability (Koo & Li, 2016). After discussing inconsistencies about the coding procedures among the URAs, a two-way mixed, single measure model of ICC using a consistency definition was calculated on two additional subsets on the data. This subset was selected randomly, and the number of responses being coded was based determined based on ICC guidelines posed by Koo and Li who suggest that 10-25% of data units are typical. As such, since the first round of coding included 24 participant responses, we calculated ICC for five participant responses from subset one (ICC = 0.95) and six participant responses for subset two (ICC = 0.95). These ICC values indicated excellent reliability (3).

Independent Coding. Each research assistant coded four interviews. The protocol entailed research assistants assigning themselves to an audio recording on Google Drive by noting their name next to the recording number. Research assistants listened to the appropriate recording via express scribe and made notes with a pencil indicating potential codes. The research assistants listened to the audio recording a second time and confirmed the codes they suspected the first time. Finally, the research assistants reviewed the hard copy of the transcription a third time without listening to the audio, approved the final codes, and transferred them to the coding worksheet. The coding worksheet required a code for every question in the interview. For each question, research assistants indicated if the participant's response had a positive, negative, neutral, or mixed evaluation by including the statement in quotes (descriptive and subcoding).

In certain cases, participants made multiple evaluations and provided a recommendation. After completing the coding worksheet, participants checked the "coding complete" box in Google Drive. To double check their codes, URAs finalized their coding by adding the coding sheet results to a table in excel. This step allowed URAs to review their codes an additional time and also served as a way to synthesize participant data into a table for future analysis. After gathering the coding tables for each participant, the principal investigator created a master table with 6 columns representing each principle of TIC. For each principle, the principal investigator included all subthemes mentioned across the 8 participants and the number of times each subtheme was mentioned. Descriptive codes and subcodes were included for each theme to identify patterns and details.

Quantitative Portion

Aim 2 was addressed using a quantitative method design with an online convenient sample. This portion of the study evaluated the psychometric properties of the scale to establish instrument validity. Aim 3 was also addressed in this portion by examining whether the resulting scale is predictive of self-reported medication adherence. The approach to analyses for this section differs from the approach used in the pilot study given missing data.

Participants

A power analysis was conducted to determine sample size for a regression analysis testing sr_i^2 to see if TIC adds anything above and beyond what is in the model. The power analysis suggested a total of N=172 participants ($f^2 = .062$, Power=.90, alpha = .05). A power analysis for a test of fit suggested a sample size of N= 94 to test a model of close fit (df= 480, alpha=.05, power=.95). Given that models with high degrees of freedom require a small sample

to determine it is a bad model (MacCallum et al., 2001), Monte Carlo simulations were also conducted to determine sample size for a power of .90.

The Monte Carlo simulation suggested a sample size of N=147 is needed for a power of .90-91, where we assumed the standardized factor loadings equaled 0.75, the item unique variance equaled 0.44 and the inter-factor correlations equaled 0.30. However, it is proposed that N=200 is collected to account for any participation issues that may have an impact on sample size. Inclusion criteria for participation is that participant must have been to a medical setting to receive medical care within the past 6 months and must be 18 years or older.

Participants were recruited using Prolific, an online crowdsourcing tool that allows researchers to collect data and compensate participants for their time. They were compensated $5.25 for their participation. Compensation was calculated based on recommended Prolific rates for similar length studies. Participants were eligible to participate if they over the age of 18 and indicated receiving medical care within the last 6 months-12 months.

Procedure

If participants agreed to participate in the study, they were presented with a consent form. Participants were then asked to complete a demographics, medical, social support, and depression questionnaires. Questionnaires and measures were the same as those listed in the pilot study. Participants were also asked to rate the presence of certain medical practices during their last medical visit. The items described medical practices that align with the principles of TIC.

Analyses

Scale Reliability and Validity. Following the methods from the pilot study, Pearson correlations were used to evaluate the relationship between all study measures with the purpose of establishing convergent, discriminant, and concurrent validity. To support convergent validity,

it was expected for TIC principles to be correlated significantly and positively to indicate that they all converge on the same construct. To establish concurrent validity, it was expected for both TIC factors to significantly and positively correlated with social support. Cronbach's alpha was then used to assess level of reliability for each scale. A confirmatory factor analysis was initially performed on the hypothesized 6 factor model. If this model did not provide good fit, an exploratory factor analysis (EFA) was conducted to assess the factor structure of the revised TIC scale. Robust maximum likelihood estimation was used to account for item non-normality in M*plus (*Muthén 1997). The factor solution was rotated using geomin rotation to assist in factor interpretability.

Imputation Method for Missing Data. Missing data mechanisms are models that explain how missing values relate to the realized data. The present study used Bayesian analyses to find the best model fit of the data and used the estimates to inform the research question (Enders, 2022). The missing values were estimated using Monte Carlo Computer Simulation (MCMC) estimations with the Gibbs sampler. The Gibbs sampler uses MCMC to randomly draw plausible parameters from a probability distribution where parameters change as the algorithm iterates (Enders, 2022). This process results in the posterior distribution needed for inference of the parameter. A model is then constructed to impute the missing values to complete the data and proceeds with iterations as if there are no missing values.

Bayesian Estimation with Missing Data. Bayesian missing data handling was applied to the multiple linear regression model. Our model consisted of three components: 1) a focal regression with the TIC, social support and depression scale scores predicting the score of medication adherence, 2) regression equations for the incomplete predictor models, and 3) regressions linking medication adherence items to the scale score. Descriptive statistics are

provided to describe the center and spread of each posterior distribution along with a credible interval. The provided regression parameters are interpreted the same as a least square and minimum likelihood analysis and the posterior standard deviations quantify uncertainty about the parameters like frequentist standard errors (Enders, 2022).

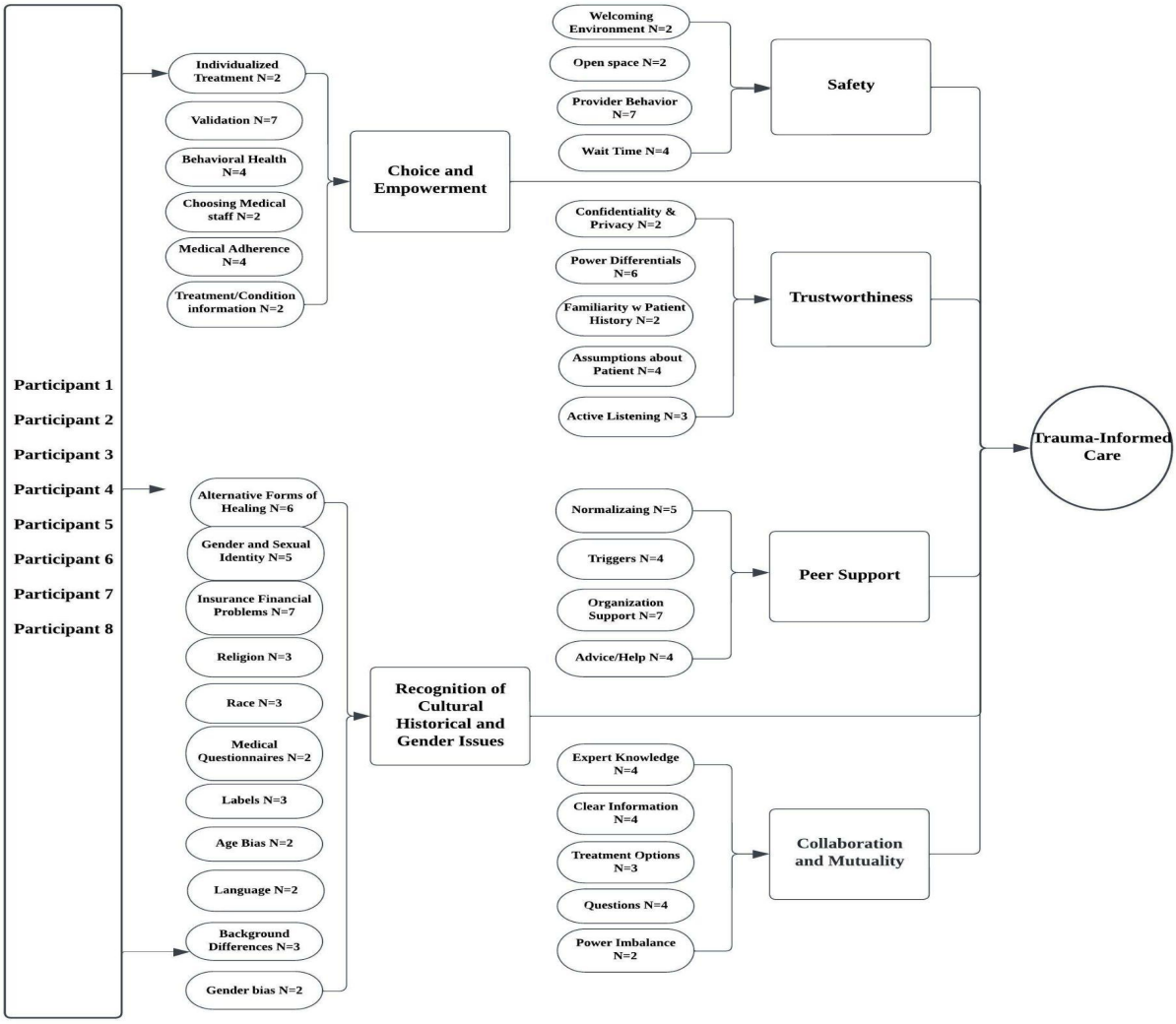
CHAPTER 4: RESULTS FOR PHASE I OF THESIS STUDY

Qualitative Findings

Codes to Theory Model for Qualitative Inquiry

The codes-to theory model for qualitative inquiry (Figure 4.1) illustrates how participant responses describing their experiences relate to each guiding principle of TIC and lead to what is known about TIC. A category was created for each principle if it was mentioned at least twice by the participants. These categories were then compared to the items created in study 1. Items from study 1 that did not fit into the identified categories were eliminated. New items reflecting categories identified in study 2 were created in place of eliminated items. Figure 4.1 includes all categories identified in each principle of trauma informed care. Only 5 items from the original scale were kept. Feedback for these five items indicated moderate to high scores on clarity, relevance, and representation of its TIC principle.

Figure 4.1: A streamline



Note: Codes-to-theory model proposed by Saldana (2021).

Quantitative Findings

Participants

The sample was predominantly male (50.9%), white (75%), middle-class (48%), and identified primarily as heterosexual (75.7%). Age ranged from 18 to 77 with an average age of 33. Most participants reported visiting a primary care provider (36.7%) or a specialist (24.3%) and having private insurance (72.8%).

Factor Analyses

The results of the confirmatory factor Analysis suggested that a 6-factor model was not the best fit for the data ($X^2(149, N= 169) = 300.483, p < .001$). RMSEA was 0.071 (CI: .060, .083), CFI was 0.923, and SRMR was 0.085. The suggested fit indices to describe the model as adequate require a CFI ≥ .95, SRMR ≤ .08 and RMSEA ≤ .06. Based on these indices, the 6-factor model does not provide a good fit to the data as it does not meet any of the indices.

Given the results of the confirmatory factor analysis, an exploratory factor analysis (EFA) was conducted. A parallel analysis suggested a 2-factor model provided the best data fit. Factor 1 explained 26.2% of the variance, and factor 2 explained 10.93% of the variance. Factor loading above 0.4 ranged from 0.412 to 0.873 (Table 4.2). Items TIC2, TIC3, TIC15, TIC20, TIC21, TIC23, and TIC27 were eliminated as they did not load above 0.4. The inter-factor correlation was 0.412 and was significant at the 5% level.

Items TIC7 and TIC17 were eliminated as they cross loaded into both factors (Costello & Osborne, 2005). A cross loading item is an item that loads at 0.32 or higher on two or more factors (Costello & Osborne, 2005). Finally, items TIC1, TIC18, and TIC31 were eliminated as they did not relate to the content of their corresponding factors. Items from factor 1 seemed to describe the TIC principles of trustworthiness, choice and empowerment, and collaboration and mutuality. When taking into all account all items instead of conceptualizing them by the three principles they fall under, they seem to describe the competence of the medical provider. These items seem to assess therapeutic/clinical skills, stereotypical/stigmatizing behavior, and the extent to which they consider the unique experiences of the patient for treatment options. Items from factor 2 clearly described the TIC principle of recognition of cultural, historical, and gender

issues. These items measure organizational representation of different groups of patients in the medical environment, alternative treatment options, advocacy, and organizational events.

Scale Reliability and Validity Estimates

Reliability estimates for TIC were evaluated utilizing Cronbach's Alpha. Test score reliability from the items making up Factor 1 (k=14 items) was found to have an alpha of 0.93. Test score reliability from the items making up Factor 2 (k=5 items) was found to have an alpha of 0.72. Regarding all other included measures, test score reliability for social support (MSPSS) estimated alpha of 0.94, depression (PHQ-9) had an estimate of 0.90, and medication adherence (RAI) had estimate of 0.75.

To determine validity of the TIC scale, Pearson correlations were conducted (table 4.1). The Pearson correlations the TIC factors were supportive of convergent validity. More specifically, provider competence and recognition of cultural, historical, and gender issues correlated significantly and positively indicating that they all converge on the same construct (Table 4.1). Discriminant validity could not be established as TIC factors did not yield a statically significant negative correlation. Finally, concurrent validity was established as all TIC factors were significantly and positively correlated with social support (Table 4.1).

Table 4.1
Pearson Correlations for all Study Measures

	1	2	3	4	5
Social Support	-----				
Depression	-.286*	-----			
Medication Adherence	-.256*	.236**	-----		
Provider Competence	.351***	-.083	-.387**	-----	
Cultural, gender & historical	.305*	-.187	-.388**	.727**	-----

** $p < .01$ * $p < .05$

Table 4.2
Summary of Exploratory Factor Analysis of TIC for Phase I

TIC Item	Factor Loading	
	1	2
1. There was enough space to move around in the medical room and waiting area.	**0.423***	-.057
2. I was informed about potential delays that could prolong my visit.	0.247*	0.301*
3. There were distractions available in the waiting room (e.g., books, magazines, tv, music, art).	0.068*	0.308*
4. There were visual representations in support of different patients (e.g., rainbow flag, safe zone sticker, pamphlets, and posters of people with disabilities or chronic diseases).	-0.224	**0.732***
5. The medical staff was attentive and empathetic.	**0.536***	0.231*
6. My healthcare provider expressed verbal and nonverbal interest in what I had to say.	**0.686***	0.166
7. The doctor seemed to be familiar with my medical history.	**0.412***	0.357*
8. My healthcare provider asked me questions to further understand my situation.	**0.719***	0.087
9. My healthcare provider did not ask unnecessary and invasive questions about my lifestyle or experiences.	**0.509***	-0.141
10. My healthcare provider listened to my concerns and observations.	**0.873***	-0.049
11. My healthcare provider primarily focused on the concerns and observations most important to me.	**0.775***	0.018
12. My healthcare provider did not make assumptions about my lifestyle based on my medical history.	**0.697***	-0.108
13. The treatment I received aligned with my medical and personal needs.	**0.791***	-0.044
14. My healthcare provider did not minimize or dismiss my symptoms	**0.800***	-0.009
15. I was able to make choices to make my visit more comfortable (e.g., open/closed door, having someone in the room, only removing necessary clothes).	0.246	0.367
16. My healthcare provider informed me about behavioral medicine interventions (e.g., mindfulness, stress management, pain management).	0.138	**0.549***
17. My healthcare provider and I discussed how to incorporate treatment into my life.	**0.478***	0.361*
18. I was given written information about my medical condition and/or treatment.	0.036	**0.424***
19. I was asked about the pronouns I identify with (e.g., He/him, she/her, they/them).	-0.210	**0.523***
20. I was not reprimanded for using alternative forms of healing (e.g., natural remedies).	0.225	0.018

21. I was informed about all of my treatment options despite the organization's religious affiliation.	0.155	0.396
22. My healthcare provider used "people- first" language to describe the condition I have (Person with alcohol problems vs alcoholic).	**0.436***	-0.078
23. There were translation services available in my preferred language.	0.129	0.291
24. My healthcare provider used easy to understand language	**0.702***	-0.153
25. The organization offers social work, case management, or advocacy services.	0.179	**0.533***
26. The organization creates opportunities for me to interact with people living with the same condition as me (e.g., peer support groups, fundraising events, awareness month events).	-0.004	**0.678***
27. The organization provides opportunities to receive patient feedback about quality of care, practices, or policies.	0.293	0.399
28. My healthcare provider and I collaborated in decision-making.	**0.720***	0.146
29. My healthcare provider offered different treatment options.	**0.544***	0.288*
30. My preferences for treatment were considered.	**0.654***	0.233*
31. My healthcare provider clearly explained the pros and cons of each treatment option	**0.520***	0.378
32. I was able to ask questions without being rushed.	**0.717***	0.157
Eigenvalues	8.385	3.497
% of variance	26.2%	10.93%

Note. N=169. Factor loadings above 0.4 are in bold. Items

Regression Analysis Predicting Medication Adherence

Bayesian missing data handling was implemented for appropriate regression analyses. There were 46 missing cases from the social support scale, 44 missing cases from the depression scale, and 41 missing cases from the medication adherence scale. As for the TIC scale, there were no missing cases, but if participants selected "N/A" to an item, tit was treated as missing data. The model predicted medication adherence, R^2= 0.154, 95*% Credible Interval [0.056, 0.275]*. Social support and depression did not statistically predict medication adherence indicated by the credible intervals (Table 4.3). Finally, out of the two TIC factors, only provider competence significantly predicted medication adherence. That is, having a competent provider predicted medication adherence.

Table 4.3

Summary of Regression Model Using Bayesian Estimation for Phase I

Variables		Mdn	SD	95% CI LCL	95% CI UCL
$\boldsymbol{\beta_0}$		9.992	1.553	6.934	13.028
$\boldsymbol{\beta_1}$	Provider Competence (TIC1)	-0.075	0.031	-0.137	-0.013
$\boldsymbol{\beta_2}$	Cultural, Historical, and Gender Issues (TIC2)	-0.041	0.058	-0.155	0.073
$\boldsymbol{\beta_3}$	Social Support (MSPSS)	-0.010	0.022	-0.053	0.032
$\boldsymbol{\beta_4}$	Depression(PHQ-9)	0.061	0.048	-0.032	0.154
$\boldsymbol{\sigma^2}$		0.846	0.056	0.725	0.943
$\boldsymbol{R^2}$		0.154	0.056	0.057	0.275

Note. Lower scores on the adherence scale indicated adherence and higher scores indicated non-adherence, LCL and UCL represent the lower and upper bounds of Bayesian Credible Intervals

CHAPTER 5: RESULTS FOR PHASE II OF THESIS STUDY

Despite the problems with missing data, the results of the study were promising considering the reliability, validity, and predictive results of the TIC scale. As such, another component was added to the study to further define and validate the TIC scale and to address missing data problems. This new component will be referred to as Phase II. In Phase II, we sought to confirm the factor structure of the TIC scale from Phase I. Therefore, the two-factor model from Phase I was tested in a separate sample.

Methods and procedure were identical as those in the quantitative aspect of Phase I. The only difference was the survey software used. In phase I, Qualtrics was used to collect participants responses. Despite selecting the appropriate settings to avoid missing data and testing the survey multiple times, participants were either allowed to not provide a response or were not presented with certain questions. QuestionPro was used in phase II to account for these technical difficulties.

Participants

The sample was equally distributed across gender. Moreover, the sample was predominantly white (75.%), middle-class (44%) and identified primarily as heterosexual (80%). Age ranged from 18 to 74 with an average age of 33. Most participants reported visiting a primary care provider (49.5%) or a specialist (19.5%) and having private insurance (68%).

Factor Analyses

The results of the CFA suggested that a 2-factor model did not fit the data ($X^2(151, N= 200) = 672.656, p < .001$). RMSEA was 0.131 (CI: .121, .142), CFI was 0.345, and SRMR was 0.136. Given the results of the confirmatory factor analysis, a second exploratory factor analysis (EFA) was conducted. The EFA indicated that a 3-factor model provided the best data fit. Factor 1

explained 29.4% of the variance, factor 2 explained 17.1% of the variance, and factor 3 explained 9.2% of the variance. Moreover, the 3-factor model was a better fit of the data ($X^2(117, N= 200) = 216.815, p < .001$). RMSEA was .065 (CI: .052, .079), CFI was 0.961, and SRMR was .034.

All loadings significantly loaded into one of three factors and ranged from 0.522 to 0.918 (Table 5.2). Items loading onto factor 1 seem to be most representative of trustworthiness. These items capture the interest medical providers take to learn about the unique experiences and needs of the patient. They do so in an empathetic way and listen attentively to the most important concerns of the patient without minimizing their symptoms or making assumptions about the patient's lifestyle.

Similar to phase I, items loading onto factor 2 described the TIC principle of recognition of cultural, historical, and gender issues. The items measure organizational representation of different groups of patients in the medical environment, alternative treatment options, advocacy, and organizational events. Items loading onto factor 3 seemed to represent collaboration and mutuality. That is, the organization fosters a collaborative environment by minimizing the power dynamics of the patient-provider relationship. Thus, patients are provided with all options of treatment and the options consider their preferences/needs.

Scale Reliability and Validity Estimates

Reliability estimates were evaluated utilizing Cronbach's Alpha. Test score reliability from the items making up Factor 1 (k=10 items) was found to have an alpha of 0.95. Test score reliability from the items making up Factor 2 (k=6 items) was found to have an alpha of 0.86. Test score reliability from the items making up Factor 3 (N=3) was found to have an alpha of 0.91. Regarding all included measures, Cronbach's alpha estimates of test score reliability for

social support (MSPSS) had an estimate of .935, depression (PHQ-9) had an estimate of .900, and medication adherence (RAI) had estimate of .656.

To determine validity of the TIC scale, Pearson correlations were conducted (table 3). The Pearson correlations the TIC factors were supportive of convergent validity. More specifically, trustworthiness, recognition of cultural, historical & gender issues, and collaboration & mutuality correlated significantly and positively indicating that they all converge on the same construct (Table 5.1). Discriminant validity was partially established as all TIC factors were negatively correlated with depression, but the correlation was not statistically significant except for collaboration and mutuality. Finally, concurrent validity was established as all TIC factors were significantly and positively correlated with social support (Table 5.1).

Table 5.1
Pearson Correlations for all Study Measures

	1	2	3	4	5
Social Support	-----				
Depression	-.408**	-----			
Medication Adherence	-.281**	.326**	-----		
Trustworthiness	.208**	-.133	-.064	-----	
Cultural, gender & historical	.258*	-.125	-.123	.375**	-----
Collaboration& Mutuality	.276**	-.213**	-.191*	.784**	.549**

** $p < .01$ * $p < .05$

Table 5.2
Summary of Exploratory Factor Analysis for Phase II

TIC Items	Factor Loadings		
	1	2	3
1. There were visual representations in support of different patients (e.g., rainbow flag, safe zone sticker, pamphlets, and posters of people with disabilities or chronic diseases).	0.091	**0.595***	-0.174
2. The medical staff was attentive and empathetic.	**0.575***	0.218*	-0.078
3. My healthcare provider expressed verbal and nonverbal interest in what I had to say.	**0.836***	-0.006	0.060
4. My healthcare provider asked me questions to further understand my situation.	**0.772***	0.168*	-0.001
5. My healthcare provider did not ask unnecessary and invasive questions about my lifestyle or experiences.	**0.586***	-0.120	0.200
6. My healthcare provider listened to my concerns and observations.	**0.901***	-0.002	0.006
7. My healthcare provider primarily focused on the concerns and observations most important to me.	**0.918***	-0.019	0.004
8. My healthcare provider did not make assumptions about my lifestyle based on my medical history.	**0.602***	0.043	0.187
9. The treatment I received aligned with my medical and personal needs.	**0.665***	0.003	0.228*
10. My healthcare provider did not minimize or dismiss my symptoms	**0.760***	-0.004	0.137
11. My healthcare provider informed me about behavioral medicine interventions (e.g., mindfulness, stress management, pain management).	0.005	**0.677***	0.098
12. I was asked about the pronouns I identify with (e.g., He/him, she/her, they/them).	0.287*	**0.768***	0.104
13. My healthcare provider used “people- first” language to describe the condition I have (Person with alcohol problems vs alcoholic).	0.001	**0.552***	0.107
14. My healthcare provider used easy to understand language	**0.550***	0.024	0.138
15. The organization offers social work, case management, or advocacy services.	0.057	**0.644***	0.100
16. The organization creates opportunities for me to interact with people living with the same condition as me (e.g., peer support groups, fundraising events, awareness month events).	-0.267	**0.985***	-0.009
17. My healthcare provider and I collaborated in decision-making.	0.299*	0.117	**0.522***
18. My healthcare provider offered different treatment options.	0.006	0.208*	**0.766***
19. My preferences for treatment were considered.	0.171	-0.006	**0.799***
Eigenvalues	5.592	3.242	1.744
% of variance	29.43%	17.06%	9.18%

Note. N=200. Factor loadings above 0.4 are in bold. Items

Regression Analysis Predicting Medication Adherence

Bayesian missing data handling were also implemented in the second phase of the study. The model predicted medication adherence, R^2= 0.16, *95% Credible Interval [0.080, 0.247]*.Social support and depression statistically predicted medication adherence indicated by the credible intervals not including 0 (Table 5.3). Higher instances of social support predicted higher adherence while higher instances of depression predicted non higher levels of non-adherence. None of the TIC scales statistically predicted medication adherence.

Table 5.3
Summary of Regression Model Using Bayesian Estimation for Phase II

				95% CI	
Variables		Mdn	SD	LCL	UCL
$\boldsymbol{\beta_0}$		6.216	1.662	3.226	8.463
$\boldsymbol{\beta_1}$	Trustworthiness (TIC1)	0.006	0.029	-0.051	0.063
$\boldsymbol{\beta_2}$	Cultural, Historical, and Gender Issues (TIC2)	0.025	0.034	-0.041	0.090
$\boldsymbol{\beta_3}$	Collaboration and Mutuality (TIC3)	-0.103	0.080	-0.259	0.057
$\boldsymbol{\beta_4}$	Social Support (MSPSS)	-0.024	0.011	-0.046	-0.001
$\boldsymbol{\beta_5}$	Depression(PHQ-9)	0.082	0.025	0.034	0.131
$\boldsymbol{\sigma^2}$		0.845	0.043	0.753	0.920
$\boldsymbol{R^2}$		0.155	0.043	0.080	0.247

Note. Lower scores on the adherence scale indicated adherence and higher scores indicated non-adherence, LCL and UCL represent the lower and upper bounds of Bayesian Credible Intervals

CHAPTER 6: DISCUSSION AND FUTURE DIRECTIONS

The impact and prevalence of trauma is undeniable and demands the attention of institutions aiming to promote positive outcomes of the populations they serve. Thus, tertiary prevention efforts are needed to understand how to lessen the effects of trauma and promote healing (Kisling & Das, 2021). The present study attempted to gain a better understanding of the extent to which these principles are representative of the experiences of trauma survivors to improve a measure of TIC. An initial attempt to develop a measure of TIC was undertaken in fulfillment of a first-year project requirement. The resulting measure was re-evaluated, and a revised measure of TIC was developed through qualitative feedback from individuals who have experienced trauma. Based on this data, a revised measure of TIC was developed with the six underlying principles of TIC in mind. Quantitative analyses of the measure, as assessed through an exploratory factor analysis, indicated that there was overlap among the six principles as none of the resulting models yielded a 6-factor structure.

Phase I and II of the study suggested different models of fit. Phase I yielded a 2-factor model, while phase II yielded a 3-factor model. Despite both models loading the same 19 items, the 3-factor model is a better representation of the data based on model indices. Furthermore, the 3-factor model (0.522 to 0.918) had stronger loadings compared to the 2-factor model (0.412 to 0.873). As a result, the 3-factor model seems to align to the proposed principles of TIC more closely. Despite the promising results of the 3-factor model, it did not significantly predict medication adherence as the 2-factor model did. That is, in the 2-factor model, provider competence predicted medication adherence.

Further research is needed to evaluate whether the 3-factor model accurately represents the principles of TIC. Accepting the 3-factor structure would suggest that some of the proposed principles of TIC overlap and are best represented with three factors. However, it is also

possible that not all principles of TIC were relevant to the participants. This conclusion is supported by the amount of " non-applicable" answers on the second phase of the study and could explain why none of TIC factors were predictive of medication adherence. Table 6.1 included example items that may not be applicable to all trauma survivors and, hence, may be irrelevant for medication outcomes.

Table 6.1 *Frequency of "Non-Applicable" Ratings*

Item	Phase I	Phase II
TIC 1: There were visual representations in support of different patients (e.g., rainbow flag, safe zone sticker, pamphlets, and posters of people with disabilities or chronic diseases).	n=20	n=49
TIC 11: My healthcare provider informed me about behavioral medicine interventions (e.g., mindfulness, stress management, pain management).	n=36	n=49
TIC 12: I was asked about the pronouns I identify with (e.g., He/him, she/her, they/them)"	n=52	n=80
TIC 13: My healthcare provider used "people- first" language to describe the condition I have (Person with alcohol problems vs alcoholic).	n=77	n=85
TIC 15: The organization offers social work, case management, or advocacy services.	n=70	n=75
TIC 16: The organization creates opportunities for me to interact with people living with the same condition as me (e.g., peer support groups, fundraising events, awareness month events).	n=69	n=81

Note. The total number of participants in the study was 200

In terms of the findings on medication adherence, it is important to note the limitations of the measure of adherence used for this study (RAI). The reliability scores for the RAI in phase I and phase II were 0.75 and 0.66, respectively. These changes in reliability scores speak to the lack of consistency of the scale and may have contributed to the statistically significant results in phase I that were not present in phase II. Thus, while the TIC scale could not predict medication adherence as measured by the RAI, it does not mean that it does not predict medication adherence measured by other scales with sound psychometric properties.

Most importantly, medication adherence only encompasses one dimension of treatment related behavior. According to the Health Belief Model (HBM), perceived severity and susceptibility, perceived benefits and barriers, self-efficacy, and internal or external cues (e.g., symptoms, media campaigns, advice from others) contribute to an individual's perception of threat (Champion et al., 2008). Thus, these factors may help explain changes and maintenance of health-related behaviors including those related to medication.

In terms of barriers to medication adherence, patients with histories of trauma may perceive their medical provider as untrustworthy, as the relationship may resemble previous experiences of neglect, abuse, and relationship instability (Klest et al., 2019). It is possible that this lack of trust may contribute to non-adherence to their treatment regime. Additionally, from the perspective of the social determinants of health (SDH) model, adverse social and living circumstances may impact perceived patient priorities (Wilder et al., 2021). That is, patients may be worried about more immediate needs such as housing instability and food insecurity than about adhering to their recommended treatment (Wilder et al., 2021).While medication can help manage symptoms of trauma, future research should consider more meaningful outcomes for patients with histories of trauma and other vulnerable populations. Potential outcomes to examine include beliefs about the health care system, perceptions of the patient-provider relationship, care continuity, self-efficacy, motivation, and confidence.

Furthermore, researchers should take caution when selecting a measure of adherence. If the outcome of interest remains in medication intake, it is advised to look for a measure that accounts for the barriers vulnerable populations may face. The present study does not recommend the use of the RAI scale for vulnerable populations as it assumes that the patient has picked up the prescription and initiated treatment.

Furthermore, the present study has several limitations regarding the sample. For the qualitative portion of the study, feedback from only 8 trauma survivors was obtained given the difficulties with recruitment. In addition, characteristics of the participants were not obtained; thus, no conclusions can be made about the sample of participants providing feedback for item development. In addition, the samples used to validate the measure were recruited from prolific and tend to account for a population that is predominantly Caucasian and educated. It is possible that the sample for phase I was not equivalent to the sample in phase II. Potential characteristics that may differ among the samples include "type of trauma", "number of traumatic experiences", and "status of treatment". Future studies should consider examining if these variables moderate the prediction of treatment-related behavior. Future research should carefully elaborate novel strategies to account for the vulnerability of certain populations across recruitment and study design.

Despite the limitations discussed previously, the present study is the first to implement a mixed method approach to understand what constitutes a TIC approach. Moreover, this project was rigorous as it collected quantitative data from two separate samples. Future studies are encouraged to improve upon the present methodology to continue to evaluate TIC . More generally, future research should examine if universal precautions are a suitable approach for trauma. Advocates of trauma recommend for healthcare settings to assume that all patients have experienced trauma at least once in their lifetime (Owens et al., 2022). This assumption follows the approach of "Universal Precautions" (UP) which was introduced by the Center for Disease Control (CDC) in 1985 at the peak of the HIV epidemic (Broussard & Kahwaji, 2022). This approach aimed to control transmissions of blood related pathogens by assuming that all bodily fluids were infectious. A set of standard precaution guidelines were then developed to care for all

patients regardless of the disease they were presenting with (i.e., hand hygiene and use of protective equipment) (Brossard & Kahwaji, 2022).

Similarly, TIC aims to apply a set of standards to create an environment that recognizes the signs of trauma, are equipped to respond to trauma signs, and resist re-traumatization (SAMHSA, 2014). The six guiding principles of TIC illustrates the standard of care expected for those aiming to implement a trauma-informed approach. The implementation of TIC as a universal precaution makes intuitive sense and is grounded on the vast amount of literature on the pervasiveness of trauma and poor patient outcomes. However, the implementation of TIC in medical settings lacks empirical grounds to make informed decisions about the specific practices and policies that support a TIC framework. The principles of TIC require further examination to determine if they are in fact universal.

It is possible that the implementation of a universal approach may not be enough to account for the needs of patients with histories of trauma. Healthcare professionals must evaluate their hesitance to screen for trauma. Reluctance may stem from a lack of preparedness to respond to a patient decompensating after such disclosure, but it may also come from perceiving such practice as added workload that interferes with the fast-paced environment of medical settings and what they consider to be their priorities. Furthermore, leading federal organizations need to be more consistent with their recommended guidelines. If providing “trauma informed” services is different from providing “trauma specific” services, then their guidelines should align with their proposals for implementation. The leadership of these organizations can help the research of TIC move forward and provide concise solutions for the delivery of TIC services.

REFERENCES

Alford, B. A., & Beck, A. T. (1997). The integrative power of cognitive therapy. New York: Guilford Press.

Alhazami, M., Pontinha, V. M., Patterson, J. A., & Holdford, D. A. (2020). Medication adherence trajectories: a systematic literature review. *Journal of Managed Care & Specialty Pharmacy*, *26*(9), 1138-1152.

Becker-Blease, K. A. (2017). As the world becomes trauma–informed, work to do. *Journal of Trauma & Dissociation*, *18*(2), 131-138.

Broussard, I. M., & Kahwaji, C. I. (2021). Universal precautions. In *StatPearls [Internet]*. StatPearls Publishing.

Brown, D. W., Anda, R. F., Felitti, V. J., Edwards, V. J., Malarcher, A. M., Croft, J. B., & Giles, W. H. (2010). Adverse childhood experiences are associated with the risk of lung cancer: a prospective cohort study. *BMC public health*, *10*(1), 20.

Brown, M. J., Thacker, L. R., & Cohen, S. A. (2013). Association between adverse childhood experiences and diagnosis of cancer. *PloS one*, *8*(6).

Champion, V. L., & Skinner, C. S. (2008). The health belief model. *Health behavior and health education: Theory, research, and practice*, *4*, 45-65.

Cheff, R. (2018). *Compensating research participants: A survey of current practices in Toronto*. Wellesley Institute.

Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical assessment, research, and evaluation*, *10*(1), 7.

DeCandia, C. J., Guarino, K., & Clervil, R. (2014). Trauma-informed care and trauma-specific services: A comprehensive approach to trauma intervention. *Waltham, MA: The National Center on Family Homelessness*.

DeCandia, C., & Guarino, K. (2015). Trauma-informed care: An ecological response. *Journal of Child and Youth Care Work*, *25*, 7-32.

DiMatteo, M. R. (2004). Social support and patient adherence to medical treatment: a meta-analysis. *Health psychology*, *23*(2), 207.

DiMatteo, M. R., Lepper, H. S., & Croghan, T. W. (2000). Depression is a risk factor for noncompliance with medical treatment: meta-analysis of the effects of anxiety and depression on patient adherence. *Archives of internal medicine*, *160*(14), 2101-2107.

Dong, M., Giles, W. H., Felitti, V. J., Dube, S. R., Williams, J. E., Chapman, D. P., & Anda, R. F. (2004). Insights into causal pathways for ischemic heart disease: adverse childhood experiences study. *Circulation*, *110*(13), 1761-1766.

Dube, S. R., Fairweather, D., Pearson, W. S., Felitti, V. J., Anda, R. F., & Croft, J. B. (2009). Cumulative childhood stress and autoimmune diseases in adults. *Psychosomatic medicine*, *71*(2), 243-50.

Enders, C. K. (2022). *Applied missing data analysis*. Guilford press.

Ford, E. S., Anda, R. F., Edwards, V. J., Perry, G. S., Zhao, G., Li, C., & Croft, J. B. (2011). Adverse childhood experiences and smoking status in five states. *Preventive medicine*, *53*(3), 188-193.

Glombiewski, J. A., Nestoriuc, Y., Rief, W., Glaesmer, H., & Braehler, E. (2012). Medication adherence in the general population. *PLoS One*, *7*(12), e50537.

Hales, T. W., Green, S. A., Bissonette, S., Warden, A., Diebold, J., Koury, S. P., & Nochajski, T. H. (2019). Trauma-informed care outcome study. *Research on Social Work Practice*, *29*(5), 529-539.

Harris, M., & Fallot, R. (2001). Creating cultures of trauma-informed care (CCTIC): A self-assessment and planning protocol.

Hays, R. D., Weech-Maldonado, R., Teresi, J. A., Wallace, S. P., & Stewart, A. L. (2018). Commentary: copyright restrictions versus open access to survey instruments. *Medical care*, *56*(2), 107.

Haynes, S. N., Richard, D., & Kubany, E. S. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *Psychological assessment*, *7*(3), 238.

Hillis, S. D., Anda, R. F., Felitti, V. J., & Marchbanks, P. A. (2001). Adverse childhood experiences and sexual risk behaviors in women: a retrospective cohort study. *Family planning perspectives*, 206-211.

Hooper, L. M., Stockton, P., Krupnick, J. L., & Green, B. L. (2011). Development, use, and psychometric properties of the Trauma History Questionnaire. *Journal of Loss and Trauma*, *16*(3), 258-283.

Jennings, A. (2004). Models for developing trauma-informed behavioral health systems and trauma-specific services. *Alexandria, VA: National Association of State Mental Health Program Directors, National Technical Assistance Center for State Mental Health Planning*.

Jin, J., Sklar, G. E., Oh, V. M. S., & Li, S. C. (2008). Factors affecting therapeutic compliance: A review from the patient's perspective. *Therapeutics and clinical risk management*, *4*(1), 269.

Kisling, L. A., & Das, J. M. (2021). Prevention strategies. In StatPearls [Internet]. StatPearls Publishing.

Klest, B., Tamaian, A., & Boughner, E. (2019). A model exploring the relationship between betrayal trauma and health: The roles of mental health, attachment, trust in healthcare systems, and nonadherence to treatment. *Psychological Trauma: Theory, Research, Practice, and Policy*, *11*(6), 656.

Koo, T. K., & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of chiropractic medicine*, *15*(2), 155-163.

Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventative Medicine*, *14*(4), 245-258.

Lam, W. Y., & Fresco, P. (2015). Medication Adherence Measures: An Overview. *BioMed research international*, *2015*, 217047.

MacCallum, R. C., Widaman, K. F., Preacher, K. J., & Hong, S. (2001). Sample size in factor analysis: The role of model error. *Multivariate Behavioral Research*, *36*, 611-637.

Mahon, D. (2022). Implementing Trauma Informed Care in Human Services: An Ecological Scoping Review. *Behavioral Sciences*, *12*(11), 431.

Mellman, T. A., & Hipolito, M. M. S. (2006). Sleep disturbances in the aftermath of trauma and posttraumatic stress disorder. *CNS spectrums*, *11*(8), 611-615.

Messick, S. (1995). Standards of validity and the validity of standards in performance assessment. *Educational measurement: Issues and practice*, *14*(4), 5-8.

Moon, S.J., Lee, W-Y., Hwang, J.S., Hong, Y.P., & Morisky, D.E. (2018) Accuracy of a screening tool for medication adherence: A systematic review and meta-analysis of the Morisky Medication Adherence Scale-8. PLoS ONE 12(11): e0187139.

Morera, O. F., & Stokes, S. M. (2016). Coefficient α as a measure of test score reliability: Review of 3 popular misconceptions. *American journal of public health*, *106*(3), 458-461.

Morisky, D. E., Ang, A., Krousel-Wood, M., & Ward, H. J. (2008). Predictive validity of a medication adherence measure in an outpatient setting. *Journal of clinical hypertension (Greenwich, Conn.)*, *10*(5), 348–354.

Muthén, B. (1997). 10. Latent variable modeling of longitudinal and multilevel data. *Sociological methodology*, *27*(1), 453-480.

Muthén, L.K. and Muthén, B.O. (1998-2022). Mplus User's Guide. Eighth Edition. Los Angeles, CA: Muthén & Muthén

Nandi, M., Puranam, S., Paccione-Dyszlewski, M., VanDusen, H., & Elisseou, S. (2018). Making universal trauma-informed health care a reality: A pilot initiative to train future providers. *The Brown University Child and Adolescent Behavior Letter*, *34*(12), 1-6.

O'Connor, C., & Joffe, H. (2020). Intercoder reliability in qualitative research: debates and practical guidelines. *International journal of qualitative methods*, *19*, 1609406919899220.

Owens, L., Terrell, S., Low, L. K., Loder, C., Rhizal, D., Scheiman, L., & Seng, J. (2022). Universal precautions: the case for consistently trauma-informed reproductive healthcare. *American journal of obstetrics and gynecology*, *226*(5), 671-677.

Park, S. P., & Lee, E. Y. J. (2019). How should medical researchers respond to false copyright infringement claims. *Sci Ed*, *6*(2), 137-141.

Peters, D. H., Adam, T., Alonge, O., Agyepong, I. A., & Tran, N. (2013). Implementation research: what it is and how to do it. *Bmj*, *347*.

Poole, N., & Greaves, L. (Eds.). (2012). *Becoming trauma informed*. Center for Addiction and Mental Health.

Raja, S., Hasnain, M., Hoersch, M., Gove-Yin, S., & Rajagopalan, C. (2015). Trauma informed care in medicine. *Family & community health*, *38*(3), 216-226.

Reeves, E. (2015). A synthesis of the literature on trauma-informed care. *Issues in mental health nursing*, *36*(9), 698-709.

Sabaté, E., & Sabaté, E. (Eds.). (2003). *Adherence to long-term therapies: evidence for action*. World Health Organization.

Saldaña, J. (2021). The coding manual for qualitative researchers. *The coding manual for qualitative researchers*, 1-440.

Shier, M. L., & Turpin, A. (2022). Trauma-Informed Organizational Dynamics and Client Outcomes in Concurrent Disorder Treatment. *Research on Social Work Practice*, *32*(1), 92-105.

Spitzer, R. L., Kroenke, K., Williams, J. B., Patient Health Questionnaire Primary Care Study Group, & Patient Health Questionnaire Primary Care Study Group. (1999). Validation

and utility of a self-report version of PRIME-MD: the PHQ primary care study. *Jama*, *282*(18), 1737-1744.

Strine, T. W., Dube, S. R., Edwards, V. J., Prehn, A. W., Rasmussen, S., Wagenfeld, M., ... & Croft, J. B. (2012). Associations between adverse childhood experiences, psychological distress, and adult alcohol problems. *American journal of health behavior*, *36*(3), 408 423.

Substance Abuse and Mental Health Services Administration. (2014). Trauma- informed care in behavioral health services. *Treatment Improvement Protocol (TIP) Series 57.*

Sung, N. S., Crowley Jr, W. F., Genel, M., Salber, P., Sandy, L., Sherwood, L. M., ... & Rimoin, D. (2003). Central challenges facing the national clinical research enterprise. *Jama*, *289*(10), 1278-1287

Suzuki, A., Poon, L., Papadopoulos, A. S., Kumari, V., & Cleare, A. J. (2014). Long term effects of childhood trauma on cortisol stress reactivity in adulthood and relationship to the occurrence of depression. *Psychoneuroendocrinology*, *50*, 289-299.

Vogt, D. S., King, D. W., & King, L. A. (2004). Focus groups in psychological assessment: enhancing content validity by consulting members of the target population. *Psychological assessment*, *16*(3), 231.

Waldinger, R. J., Schulz, M. S., Barsky, A. J., & Ahern, D. K. (2006). Mapping the road from childhood trauma to adult somatization: the role of attachment. *Psychosomatic medicine*, *68*(1), 129-135.

Wilder, M. E., Kulie, P., Jensen, C., Levett, P., Blanchard, J., Dominguez, L. W., ... & McCarthy, M. L. (2021). The impact of social determinants of health on medication

adherence: a systematic review and meta-analysis. *Journal of general internal medicine*, *36*(5), 1359-1370.

Williamson, D. F., Thompson, T. J., Anda, R. F., Dietz, W. H., & Felitti, V. (2002). Body weight and obesity in adults and self-reported abuse in childhood. *International journal of obesity*, *26*(8), 1075.

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of personality assessment*, *52*(1), 30-41.

APPENDICES

Interview Proposal

Instructions: Thank you for your interest in our study! You will now be presented with more study information to help you determine if you would like to participate in our study. If you are interested in participating upon reading the interview proposal, you will be prompted to complete a screening questionnaire to determine study eligibility. Please note that screening questions may be sensitive and/or cause discomfort. Screening data will not be used for research purposes other than to determine your eligibility.

Before participant is prompted to check study eligibility, they will be able to view information about the Individual semi-structured interviews

I. Individual semi-structured interview

This will be an Individual semi-structured interview for people over the age of 18 who identify themselves as trauma survivors and who are interested in sharing their experiences with health care services. The interview will specifically focus on the extent to which medical settings (e.g., emergency department, general practice, private/public hospitals, urgent care) recognize the impact of trauma and presence of trauma symptoms to provide quality care to trauma survivors. The interview process will not focus on personal accounts of trauma to protect participant from emotional and physical distress. This will be a one-time interview that will last 60 minutes via zoom. Participants will be compensated with a $25 gift card for one-time participation.

The individual semi-structured interview is for research purposes and does not constitute therapy or mental health treatment.

II. Rationale, Goals, and Objectives

The rationale for conducting this type of interview if as follows

a. The interview will help inform medical settings of their critical role in supporting the recovery of patients with a history of trauma to establish long-term engagement in services and patient satisfaction.

III. Goals and objectives for the group are as follows:

a. To foster a safe environment for the participant to discuss how the following components relate to their experiences during health care visits
    i. Physical and emotional safety
    ii. Transparency and predictability of medical tasks and procedures
    iii. Patient choice and control during visit
    iv. Cultural, historical and gender recognition
    v. Support from other trauma survivors
    vi. Collaboration, mutuality, and shared decision making between patients and providers

IV. Rights and Expectations of Participant

Participants have rights as well as responsibilities. Participants will decide at what level they participate, how much they reveal about themselves, and when they wish to share information. Ethical guidelines of research will be followed.

V. Basic Ground Rules

a. Participation in the interview is voluntary. Participant may withdraw from group at any moment without penalty.
b. It is all right to abstain from discussion of specific topics if you are not comfortable.
c. All responses are valid- there are not right or wrong responses.
d. Recording of any kind (e.g., audio, video, screenshots) is strictly prohibited

VI. Topics for the Interview

Certain topics will be given emphasis, but participant will have the opportunity to discuss the aspects of those topics that are most meaningful to them. Following is a sample of some possible topics to explore.

a. What makes you feel emotionally safe when seeking medical care?
b. What makes a medical provider trustworthy?
c. What type of biases have you experienced because of your culture, past experiences, and/or gender identity?

VII. Videoconferencing

a. This study involves remote and or virtual research interactions. Research activities will be audio and video recorded via web conferencing systems. Therefore, privacy and confidentiality is not guaranteed due to the nature of the research environment and the electronic conferencing platforms that will be used.
b. Interview will be recorded using Zoom, a cloud-based peer-to-peer software platform used for teleconferencing and telecommunicating. Please note that Zoom is a third party, and we cannot guarantee privacy and confidentiality.
    i. Please review Zoom privacy statement at https://zoom.us/privacy

Recordings will be transcribed for analysis and will be stored in password protected and encrypted

Screening

Individuals interested in participating will be screened to identify histories of trauma and experience related trauma symptoms to determine eligibility for this study. Screening will only be used to determine study eligibility and will not be used to determine if a disorder exists or to determine severity of trauma symptoms. Screening will assess the following domains: Trauma history, presence of trauma related symptoms, risk for suicide and violence.

A positive screen would determine eligibility of study. A positive screen must:

a) Indicate presence of a traumatic event (s)
    a. Trauma History Questionnaire
b) Indicate self- reported emotional/physical distress after traumatic event
    a. 2 question inquiring about presence of trauma related symptoms
c) Low or no risk for self-harm, suicide or violence
    a. 6 questions inquiring about suicide and homicide risk

Presence of Trauma Related symptoms

Emotional Manifestation of Trauma

1. Did any of these events really bother you emotionally?

Physical Manifestation of Trauma

2. Did any of these events cause any physical complaints?

Suicide and Homicide Risk

Suicidal Ideation/ Homicidal Ideation:

1. In the past two weeks, have you had any thoughts of hurting or killing yourself or thinking that you are better off dead? (Y/N)
2. In the past two weeks, have you had any thoughts of hurting or killing someone else or thinking that they are better off dead? (Y/N)

Suicidal Intent/ Homicidal Intent:

1. Are you likely are you to try to kill yourself today or in the near future? (Y/N)
2. Are you likely are you to try to kill someone today or in the near future? (Y/N)

Suicidal Plan

1. Do you have a plan of how you would kill yourself or end your life? (Y/N)
2. Do you have a play of how you would kill someone or end their life? (Y/N)

If participant answers YES suicidal/homicidal intent or plan questions above, participants will receive screen out message informing them they are not eligible for study and will provide resource information:

- 24/7 National Suicide Prevention Lifeline 1-800-273-TALK (8255)
    - En Español: 1-888-628-9454
- 24/7 Crisis Text Line: Text “HELLO” to 741-741
-

If eligible, participant will be prompted to read and agree or disagree to Consent Form. If participant consents to participate in study, they will be asked to provide their email and phone number to receive a reminder about the interview and the Zoom link and to receive payment.

Individual Semi-structured interview Protocol- Trauma-Informed Care Scale

Preparation of Zoom Meeting

1. Principal investigator will make sure to make self the "Host" of the Meeting and will make support staff co-hosts.
2. Under the "settings" option on Zoom, the principal investigator will select the following boxes:
    a. Passcode: Only users who have the invite link or passcode can join the meeting
    b. Waiting room: Only users admitted by the host can join the meeting
    c. Video Off for host and participants
    d. Audio: Computer audio
    e. Mute participants upon entry

Undergraduate Research Assistants

1. If you notice a participant is showing signs of distress during the interview, send a direct message to the principal investigator using the chat. Signs of distress may include the following situations: Participant seems distracted or disengaged, is teary eyed, or is being disruptive.
    a. Principal investigator will Inquire about observations with participant. If participant confirms distress, inform them that they may withdraw from study and provide appropriate resources
        i. 24/7 National Suicide Prevention Lifeline 1-800-273-TALK (8255)
            1. En Español: 1-888-628-9454
        ii. 24/7 Crisis Text Line: Text "HELLO" to 741-741

Undergraduate Research Assistants

1. Take field notes
    a. Describe the "virtual" setting (Participant will have cameras on)
    b. Describe the social environment and the way in which participant interacted with interviewer in this setting.
        i. Patterns of interaction
        ii. Frequency of interactions
        iii. Patterns of behavioral events such as disagreements, decision-making, or collaboration
    c. Record participant quotes
    d. Describe impressions of situation you observed

Flow of the interview: (Total interview should last 60 min; Part I (45 min) Part II (15 min))

[Principal investigator: Follow the following script]

A. Opening statement about interview content and purpose
    a. Hello [name of participant], thank you so much for being here today. We are grateful to get the opportunity to hear from you! My name is Jennifer Castañeda and my role is to guide discussion today. With me is _____ and _____, who will help me take notes.

b. Before we begin, I would like to talk a little about the interview. You've been invited to participate because you identify as a trauma survivor and have come in contact with the healthcare system.
c. We are conducting this interview to inform medical settings of their critical role in supporting the recovery of patients with a history of trauma to promote long-term engagement in services and enhance patient satisfaction.
d. The field has identified some "trauma-informed" principles, but we would like to know if these principles truly reflect your experiences with the health care system. We will use your feedback and input to create an instrument that can be used in medical settings to evaluate the extent to which they implement trauma-informed practices and make informed decisions on how to change policies and practices accordingly.
e. We value your input and unique experiences as we believe your voice should be a guiding force for policy change. Thank you for helping us make this project possible and we hope our research can help improve medical care practices.
f. As stated in the study information sheet and the consent form, we will not discuss personal accounts of trauma to protect you from emotional and physical distress. Please note that the interview is for research purposes and does not constitute therapy or mental health treatment. The session will last 60 minutes and will be audio AND video recorded through Zoom. The recording and notes will not be shared with anyone who is not part of the project.
g. Are there any questions or anything we may clarify?

[Principal Investigator continues…]

B. Safe Environment and rapport

a. We want you to feel comfortable as you share your experience, so we would like to set some guidelines that can help us set a safe environment.

[Principal investigator writes guidelines on Chat for all participants to view]

i. Participation in the interview is voluntary.
~~1.~~ You may withdraw at any moment without penalty. If at any point you wish to withdraw from the study, please let me know.
ii. It is all right to abstain from discussion of specific topics if you are not comfortable.
iii. All responses are valid- there are not right or wrong responses.
iv. Recording of any kind (e.g., audio, video, screenshots) is strictly prohibited

b. Would you like to add anything before starting our interview?

C. Interview

[Part I: Open ended Questions] (~45 min)

a. Thank you for your suggestions. We can now begin the interview portion.

b. Please take some time to think about your experience as a trauma survivor and a patient. We would like to get a better understanding of your experiences in medical settings and what things are important to you that usually lead to a good medical visit. Please recall that specific traumatic experiences will not be discussed during discussions.

***Note:** All questions were designed specifically for this study with the exception of questions under the culture, gender and historical issues domain *

Safety. Ensuring physical and emotional Safety

1. What makes you feel safe when seeking medical care? (Ask participant about the following areas one by one)
    a. Safety in environment (Facility, waiting room, examination rooms)
    b. Safety in interactions (Receptionist, Nurse, doctor, tech)

Trustworthiness. Tasks and procedures are clear, predictable and boundaries are maintained

2. What makes a medical provider trustworthy?
3. What makes you feel uneasy during medical visits?

Choice and Empowerment. Maximizing Consumer Choice and Control in an attempt to use an individualized approach to care and empower patients

4. What active choices do you make during medical visits that make you feel more in control?
5. What makes you feel validated during your interactions with medical providers?
6. How can medical settings help you build your skills?

Recognition of Cultural, Historical, and Gender Issues. No Cultural stereotypes and biases and is gender responsive.

** **Note:** Questions 7 to 16 have been adapted from the standardized DSM-V Cultural Formulation Interview**

[Some people may explain their medical concerns as the result of bad things that happened in their life, problems with others, a spiritual reason, or many other causes; The following questions are targeting cultural perceptions of cause, context, and support]

7. What do others in your family, your friends, or others in your community think have caused some of your medical concerns in the past? [causes]
8. Are there any kinds of support that make your medical concerns better, such as support from family, friends, or others? [Support]
9. Are there any kinds of stresses that make your medical concerns worse, such as difficulties with money, or family problems? [Stressors]

[Sometimes, aspects of people's background or identity can make your medical concerns worse. By background or identity, I mean, for example, the communities

you belong to, the languages you speak, where you and your family are from, your race or ethnic background, your gender or sexual orientation, or your faith or religion; The following questions are targeting role of cultural identity]

10. For you, what are the most important aspects of your background or identity?
11. Are there any aspects of your background or identity that make a difference to your medical concerns?
12. Are there any aspects of your background or identity that are causing other concerns or difficulties for you?

[Sometimes people have various ways of dealing with medical problems; The following questions are targeting cultural factors affecting self-coping and past help seeking]

13. What have you done on your own to cope with medical concerns?
14. Often, people look for help from many different kinds of doctors, helpers, or healers. In the past, what kinds of treatment, help, advice, or healing have you sought for your medical concerns?
    a. Probe: What types of help or treatment were most useful? Not useful?
15. Has anything prevented you from getting the help you need?
    a. Probe: For example, money, work, or family commitments, stigma or discrimination, or lack of services that understand your language or background?

[Sometimes doctors and patients misunderstand each other because they come from different backgrounds or have different expectations; The following questions are targeting clinician patient relationship]

16. Have you been concerned about this and is there anything that can be done to provide you with the care you need?
17. What type of biases have you experienced because of your culture, past experiences, and/or gender?
18. What are some precautions medical settings could implement to avoid stereotyping patients?

Peer support

19. How does meeting other trauma survivors make you feel?
20. What are some ways that organizations could provide a space of support for you and other trauma survivors?

Collaboration & Mutuality. No power differentials and share decision-making

21. How can medical providers involve you in decision-making regarding your treatment and/or medical care?
22. What type of behavior do you think points to power imbalance between patients and medical providers?

Additional Question

23. Are there any other areas that have not been covered that are relevant to your experience as a trauma survivor?

[Facilitator wraps up any additional input from participant15 min before session ends]
[Part 2: Item feedback]: (Approximately 15 minutes)

a. For the second part of the interview, we are asking that you rate some items based on clarity, relevance, and representation of each of the areas we covered in part I.
b. As mentioned earlier, we have created a tool that medical settings could use to get patient feedback on level of TIC adherence. We would like your feedback on these items to make improvements. You will be asked to rate each item and provide feedback for any items you may find problematic.
c. I have added a link in the chat where you can access this questionnaire. When you are done, please send me a message using the chat feature letting me know.

[link to Qualtrics where participants answer the following questions for each item]

a. In terms of wording and language used, how clear is this item? (0= Not Clear 7=very clear)
b. How relevant is this item to your experiences as a trauma survivor? (0= Not relevant 7=very relevant
c. How well does the item represent (x; one of the 6 TIC principles)? (0=Not a good representation 7= Very good representation

Follow-up questions for Problematic items:

d. What do you think the item is getting at?
e. How would you improve the item?

Items:

Domain 1A. Safety: Ensuring physical and emotional Safety

1. Signs in the medical room and waiting room area are easy to read.
2. Magazines available in the waiting room have appropriate content.
3. There are easily accessible exits throughout my visit.
4. My communication with the receptionist is always respectful.
5. Other patients cannot overhear private medical information in the reception and waiting room areas.
6. There is enough space to move around in the medical room and waiting area.

Domain 1B. Trustworthiness & Transparency: Tasks and procedures are clear and predictable and boundaries are maintained

7. I am informed about what areas of my body will be touched before examination begins.
8. I am informed about the purpose of each examination.
9. I am given written information about suggested treatment(s).
10. The doctor expresses verbal and non-verbal interest in what I have to say.
11. The doctor maintains boundaries at all times by being respectful and professional.

Domain 1C. Collaboration and Mutuality: No power dynamic

12. My doctor and I collaborate in decision-making.
13. I am given different treatment options.
14. My preferences are taken into account for treatment options.
15. I am given appropriate referrals to build my skills.
16. My strengths and skills are recognized.
17. I am asked about my personal preferences to make my visit more comfortable.

Domain 1E. Empowerment & Choice: Prioritizing empowerment and skill building +Maximizing Consumer Choice and Control.

18. I am given the choice to maintain the door open/closed
19. I am given positive feedback when I follow recommendations to improve my health.
20. The doctor validates my feelings, symptoms, and concerns.
21. The nurse validates my feelings, symptoms and concerns
22. I am allowed to have someone else in the room (nurse/medical staff, family member, friend, etc).

Domain 1F: Recognition of Cultural, Historical, and Gender Issues: No Cultural stereotypes and biases and is gender responsive.

23. I am asked about the pronouns I identify with (e.g. He/him, she/her, they/them).
24. I am not called insulting names at any point during my visit.
25. Forms allow me to identify as other than male or female.
26. Quality of service is the same across patients.
27. I am treated with the same courtesy as others.
28. I am not unfairly denied service or treatment.

A. Debrief and Closure
    a. We are now out of time, but we would like to thank you all for sharing and giving us feedback.
    b. If you have any question or concerns about the study, please reach out to us! We have added our information on the chat to facilitate point of contact. We will also be available for about 20 minutes if anyone has any private comments or concerns.

TIC Experts Feedback (Approximately 15 min) (On items above)

- a. We have created a tool that medical settings could use to get patient feedback on level of Trauma Informed Care adherence. We would like your feedback on these items to make improvements. You will be asked to rate each item and provide feedback for any items you may find problematic.
    - a. In terms of wording and language used, how clear is this item? (0= Not Clear 7=very clear)
    - b. How relevant is this item to your experiences as a trauma survivor? (0= Not relevant 7=very relevant

c. How well does the item represent (x; one of the 6 TIC principles)? (0=Not a good representation 7= Very good representation

Follow-up questions for Problematic items:

d. What do you think the item is getting at?
e. How would you improve the item?

Trauma- Informed Care Study Qualitative Coding Manual

Portions of this manual were adapted from The Coding Manual for Qualitative Researchers 3rd Edition by Sandaña (2021).

WHAT IS A CODE?

A generated construct (i.e., a word or short phrase) that captures the main content and essence of a text.

CODING METHODS

1. **Magnitude Coding** examines positive, negative, and neutral perspectives in a text. It is appropriate for qualitative studies in the area of health care.
    1. Magnitude Codes can consist of words or number that suggest evaluative content
        1. POS=POSITIVE
        2. NEG=NEGATIVE
        3. NEU=NEUTRAL
        4. MIX= MIXED
        5. BLANK= NO EVALUATIVE COMMENT

    Example 1.1: I struggle to keep up with my appointments because of the way I've been treated. Even cancelling the appointment is difficult because the **receptionist threatens** me about my **med refills.** The times I go to my appointment, **I absolutely dread the nurse** asking those routine questions and making **judgmental facial expressions about my sexual history**. You would think I would be alleviated to finally talk to the **doctor**, but **I tend to be anxious** because he **usually stands at the door** which makes me feel like **he doesn't have time to listen to my concerns**. Other times he just comes in and **starts the examination** without **an explanation of what he is doing.**

Quality of Care	Receptionist	Nurse	Doctor
Safety	NEG	NEG	NEG
Trustworthiness and Transparency	-	-	NEG
Empowerment and Choice	NEG	-	-
Cultural Historical and Gender issues	-	NEG	-
Peer Support	-	-	-
Collaboration and Mutuality	-	-	NEG

2. **Sub-coding** refers is a nested form of coding where a second-order tag is assigned to a primary code to provide further detail. You can think of sub-coding like a hierarchy, where the primary code is the "parent" and the subcode is the "child"

Example 1.2:

1. Door
    1. Closed
    2. Opened

AFFECTIVE METHODS

Refers to the investigation of the human experience including emotions, values, conflicts, and judgements. Learning affective qualities also lets us learn about motives for behavior, reactions, and interactions with others.

1. **Evaluation Coding** refers to codes for qualitative data that assign a judgement about the significance of a program, policy, or practice. Moreover, evaluation data describes, compares, and predicts. That is, description provides pattern of responses about the attributes to assess quality. Comparison examines if the organization measures up to the ideal standard. Finally, prediction provides recommendations and implementation for specific areas that require change.
    1. The evaluation codes may come from the researcher based on their areas of interest for evaluation or from the feedback provided by the participants. This coding system must reflect the questions that formed part of structuring the evaluation (In this case, the questions in the semi-structured interviews.
    2. Evaluation coding oftentimes employs **eclectic coding**, which is a mixture of magnitude coding, descriptive coding, sub-coding, and a recommendation coding tag.
    3. Analysis for evaluation findings must have the following four processes:
        1. Analysis of the data for its patterns
        2. Interpretation of their significance (magnitude coding)
        3. Judgement of the results (Specific topic → Subtopic)
        4. Recommendations for Action (Recommendation coding tag)

The following example will use evaluation and eclectic coding & will follow the four steps above.

EXAMPLE 2.1. *CODING USING EVALUATION AND ECLECTIC CODING*

Notice that this question belongs to the principle of safety, so your descriptive code should reflect safety

Interviewer: [What makes you feel physically and emotionally safe when it comes to the medical environment? The medical environment can include the waiting room, examination room, or the facility itself etc.]

(+) (magnitude code) Descriptive code for Safety Sub-coding

Participant: [1]I **appreciate** when the seating arrangement in the waiting room is facing directly at the door. It just makes me feel safe. [2] I know that sometimes it is not possible depending on the layout of the room and number of chairs. [3] There is something **comforting** about being able to see who comes in and what they are doing.

(-) (Magnitude code)

Descriptive code for Safety

[4]Part of it may also be that emergency exit signs are out of sight when you are not facing the door. [5] I know you can just turn around to look- but I **freeze** when I am in a state of **panic** and it may take me a minute to locate all the exit areas that could keep me safe in case of an emergency.

Descriptive code for Safety (-) (Magnitude code)

Sub-coding

ANALYSIS

[1] + Seating arrangement: "facing directly at door" "appreciate"

[2] rec: limit # of seats

[3] + Visible people and behavior: "comforting"

[4] rec: have clear exit signs

[5] – Emergency: "Freeze" "state of panic" "take a minute to locate exits"

To break down the analysis above even more:

Positive comments:

Visible door: “appreciate” “Safe”

Visible people and behavior: “comforting”

Negative Comments

Case of an emergency: “freeze” “panic” “Take me a min to locate exits”

Rec Comments

Rec: Clear exit signs

Materials you Need for Qualitative Coding

1. Highlighter
2. Pencil with eraser
3. Headphones
4. Coding worksheet & Table
5. Trauma-Informed Care Qualitative Coding Manual
6. Hard copy of transcription
7. Audio-recordings

Step-by-Step Directions for Coding

1. First, pick a hard copy transcription to code. Then, assign yourself to the audio- recording on Google Drive by noting your name next to the recording number. Then, access the appropriate recording via express scribe.
2. Listen to the audio recording while reading along using the hard copy of the transcription and make notes on the transcription with a pencil indicating areas you think might be coded. Remember that you are looking to code the participant’s judgment (Magnitude code) about the implementation of the 6 principles of trauma informed care in medical settings (descriptive code). The participant may or may not provide a recommendation to change or implement a practice/policy, in which case you would also code it.
3. Then, listen to the audio recording a second time and confirm the codes you suspected the first time.
    1. Magnitude code (Note one of the symbols above the word or phrase that describes the perspective of the participant)
        1. POS- Positive Comments (+)
        2. NEG- Negative Comments (-)
        3. NEU- Neutral Comments (~)
        4. MIX- Mixed Comments (x)

2. Descriptive Codes (Underline the text that describes the principle of trauma informed care that the interview question is targettting)
    1. *Safety.* Ensuring physical and emotional Safety among the physical environment and personal interactions

        *E.*g. Door, Chairs, medical provider, examination room

    2. *Trustworthiness and Transparency*. Tasks and procedures are clear, predictable and boundaries are maintained

        E.g. Examination procedure, informational pamphlets, verbal or non-verbal provider behavior

    3. *Empowerment and Choice*. Maximizing Consumer Choice and Control in an attempt to use an individualized approach to care and empower patients

        *E.*g. Door, clothes, medical tool/device, Verbal or non-verbal provider behavior

    4. *Cultural, Historical, and Gender issues.* No Cultural stereotypes, biases, and is gender responsive.

        *E.*g. pronouns, medical forms, service/treatment

    5. *Peer Support.* Opportunities to meet other trauma survivors.

        *E.*g. Support groups, online discussion boards

    6. *Collaboration and Mutuality.* No power differentials and share decision-making between patient and provider

        E.g. verbal or non-verbal provider behavior, treatment options, referrals

    7. *Other*. Any other area that does not already constitute a principle of trauma informed care.
3. Sub-Codes (double-underline specific details about the primary (descriptive) code)

    E.g. if the descriptive code is “door”, a potential sub-code could be “closed”

    E.g. if the descriptive code is pronoun, a potential sub-code could be “assumed”

4. Recommendation Code (Note an exclamation mark at the end of the sentence that contains a recommendation)

    E.g., Limit the number of chairs in the waiting area to ensure all seats face the door.

5. After you have gone through the recording a second time and coded for the participant's evaluative perspective about the practices that constitute each principle of trauma- informed care, review the hard copy of the transcription a third time without listening to the audio and highlight the areas that you underlined and double underlined to confirm your descriptive codes. To confirm your magnitude code, also highlight the word or phrase that justifies their evaluative perspective. To confirm your recommendation code, add a second exclamation point at the end of the recommendation comment.
6. Open the coding worksheet and go through the hard copy of the transcription and make notes of the positive, negative, neutral, mixed, and recommendation comments for each interview question. Separate each type of comment by using a semicolon.

    E.g., Recommendations: Limit number of chairs; have clear exit signs

7. Go to Google Drive and check the "Coding complete" box.

Rules

1. Do not start coding an interview unless you have time to finish it (interviews are usually an hour long).
2. You must assign a magnitude code for every descriptive code.
3. A descriptive code may or may not have a subcode. Pay attention to whether the participant is providing details!

Things to Consider

1. If you are having trouble identifying a descriptive code because It does not fall under any of the 6 principles, it is possible that it is an emerging theme!
2. When it comes to magnitude coding, remember that a neutral code refers to not having a particular negative or positive feeling towards sometime (indifferent, don't care), while having mixed feelings about it refers to having contradicting emotions. These are both different from a "blank" code as it denotes not assigning any feelings to something (participant may say " idk how to answer that" or simply not say anything about it.

Demographics

1. What is your age? _____
2. What is your gender?
    a. Male
    b. Female
    c. Other (Specify) : _____
3. Specify your ethnicity.
    a. White
    b. Hispanic/Latino
    c. Black or African American
    d. Native American or American Indian
    e. Asian or Pacific Islander
    f. Other
        i. Specify: _____
4. What is your marital status?
    a. Single
    b. Married or common law married
    c. Widowed
    d. Divorced
    e. Separated
5. What is your current employment status?
    a. Employed full-time
    b. Employed part-time
    c. Full time student
    d. Part time student
    e. Unemployed
6. Do you consider yourself to be:
    a. Heterosexual or straight
    b. Homosexual
    c. Bisexual
    d. Not listed above (specify): _____
    e. Prefer not to answer

Section IB: Medical Background and Insurance/Socioeconomic Status

1. When was the last time you received medical care (in months)? _____
2. What type of medical care did you last use?
    a. Hospital
    b. Surgical Center
    c. Doctor's office
    d. Urgent Care Clinic
    e. Other (Specify):_____
3. What type of medical insurance do you have?
    a. Private insurance
    b. Medicaid
    c. No Insurance

d. Other (specify): _____

4. With regard to your current or most recent job activity:
    1. What kind of work do (did) you do? (Job Title)

       _____
       (For example: registered nurse, personnel manager, supervisor of order department, gasoline engine assembler, grinder operator.)

    2. How much did you earn, before taxes and other deductions, during the past 12 months?

       _____Less than $5,000
       _____$5,000 through $11,999
       _____$12,000 through $15,999
       _____$16,000 through $24,999
       _____$25,000 through $34,999
       _____$35,000 through $49,999
       _____$50,000 through $74,999
       _____$75,000 through $99,999
       _____$100,000 and greater
       _____Don't know
       _____No response

5. How many people are currently living in your household, including yourself?

       _____Number of people
       _____Of these people, how many are children?
       _____Of these people, how many are adults?
       _____Of the adults, how many bring income into the household?

6. Which of these categories best describes your total combined family income for the past 12 months? This should include income (before taxes) from all sources, wages, rent from properties, social security, disability and/or veteran's benefits, unemployment benefits, workman's compensation, help from relatives (including child payments and alimony), and so on.

       _____Less than $5,000
       _____$5,000 through $11,999
       _____$12,000 through $15,999
       _____$16,000 through $24,999
       _____$25,000 through $34,999
       _____$35,000 through $49,999
       _____$50,000 through $74,999
       _____$75,000 through $99,999
       _____$100,000 and greater
       _____Don't know
       _____No response

Social Support Scale

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you Very Strongly Disagree
Circle the "2" if you Strongly Disagree
Circle the "3" if you Mildly Disagree
Circle the "4" if you are Neutral
Circle the "5" if you Mildly Agree
Circle the "6" if you Strongly Agree
Circle the "7" if you Very Strongly Agree

1. There is a special person who is around when I am in need.
2. There is a special person with whom I can share joys and sorrows.
3. My family really tries to help me.
4. I get the emotional help & support I need from my family.
5. I have a special person who is a real source of comfort to me.
6. My friends really try to help me.
7. I can count on my friends when things go wrong.
8. I can talk about my problems with my family.
9. I have friends with whom I can share my joys and sorrows.
10. There is a special person in my life who cares about my feelings.
11. My family is willing to help me make decisions.
12. I can talk about my problems with my friends.

Depression Inventory

Over the last 2 weeks, how often have you been bothered by any of the following problems?

0= Not at all

1= Several Days

2= More than half the days

3= Nearly everyday

1. Little interest or pleasure in doing things
2. Feeling down, depressed, or hopeless
3. Trouble falling or staying asleep, or sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down
7. Trouble concentrating on things, such as reading the newspaper or watching television
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual
9. Thoughts that you would be better off dead or of hurting yourself in some way

Trauma-Informed Care Scale

Instructions: Think about your last in-person medical visit experience. Read each item carefully and rate the quality of service you received. Medical Staff= Receptionist, Technician Healthcare provider= Doctor or nurse practitioner

0= Very poor
1= Poor
2= Fair
3= Good
4= Excellent
5= N/A

Factor 1

1. The medical staff was attentive and empathetic
2. My healthcare provider expressed verbal and nonverbal interest in what I had to say
3. My healthcare provider asked me questions to further understand my situation
4. My healthcare provider listened to my concerns and observations
5. My healthcare provider primarily focused on the concerns and observations most important to me
6. My healthcare provider did not make assumptions about my lifestyle based on my medical history
7. The treatment I received aligned with my medical and personal needs
8. My healthcare provider did not minimize or dismiss my symptoms

Factor 2

1. The doctor seemed to be familiar with my medical history
2. I was able to make choices to make my visit more comfortable (e.g., open/closed door, having someone in the room, only removing necessary clothes)
3. My healthcare provider informed me about behavioral medicine interventions (e.g., mindfulness, stress management, pain management).
4. My healthcare provider and I discussed how to incorporate treatment into my life
5. My healthcare provider and I collaborated in decision- making.
6. My healthcare provider offered different treatment options
7. My preferences for treatment were considered
8. My healthcare provider clearly explained the pros and cons of each treatment option
9. I was able to ask questions without being rushed

Factor 3

1. I was not reprimanded for using alternative forms of healing (e.g., natural remedies)

2. I was informed about all my treatment options despite the organization's religious affiliation.
3. My healthcare provider used "people-first" language to describe the condition I have (person with alcohol problems vs alcoholic)
4. There were translation services available in my preferred language
5. The organization offers social work, case management, or advocacy services
6. The organization creates opportunities for me to interact with people living with the same condition as me (e.g., peer support groups, fundraising events, awareness month events)
7. There were visual representation in support of different patients (e.g., rainbow flag, safe zone sticker, pamphlets and posters of people with disabilities and chronic diseases)

Medical adherence

Instructions: Consider all past behaviors concerning any prescribed medication and indicate your agreement with each statement on a five-point Likert scale.

1= (almost) never happened (in 0–20% of cases)
2=rarely happened (in 20–40% of cases)
3=often happened (in 40–60% of cases)
4=happened most of the time (in 60–80%)
5= (almost) always happened (in 80–100% cases).

1. I stored or threw away prescribed medication without unwrapping it
2. I changed the doses of my medication without doctor's authorization depending on my well-being
3. I discontinued my medication earlier then the doctor recommended
4. I discontinued my medication because of mild side-effects

CURRICULUM VITA

Jennifer Castañeda was accepted into the Health Psychology Doctoral program at The University of Texas at El Paso on the Fall of 2018. Jennifer decided to pursue a Master's in Clinical Psychology en route to Ph.D. to fulfill the requirements for the License Professional Counselor certification. As part of her training, Jennifer completed her practicum at the university's Counseling and Psychological Services. Upon completion of the practicum, Jennifer studied and lived in Washington, D.C. for the Summer of 2021 as a fellow of the Archer Center at The University of Texas System. During her time in Washington, D.C., Jennifer completed an internship with *Age Friendly DC*, carrying out an initiative of the *World Health Administration* to create age friendly communities.