The Impact of a Trauma-informed Model of Care on Child Welfare Workers and Staff Turnover in a Care Management Organization

Presented to the Faculty of the School of Nursing

Saint Peter’s University

In partial fulfillment of the requirements
For the Degree of Doctor of Nursing Practice

By

Diane Silbernagel

Approved: _____________________________, Chairperson

Approval Acknowledged: ________________, DNP Program Director

Approval Acknowledged: ________________, Dean School of Nursing

Date: December 15, 2016
DEDICATION

This project is dedicated to all of the past, present, and future children served by child welfare service organizations and their dedicated staff.
ACKNOWLEDGMENTS

I would like to acknowledge the encouragement of my colleagues and the nursing faculty of St. Peter's University DNP program. I am especially grateful for the assistance I received from my professor, Dr. Valera Hascup, my mentor, Dr. Connie Bareford, and my academic advisor, Dr. Michelle Beckford. Their support and guidance, has made this project possible.
Abstract

Child welfare staff are at risk for secondary traumatic stress due to daily exposure to vicarious trauma while working with children and families who are traumatized, often due to family violence. The stress of working with maltreated children is significant in that it contributes to negative client outcomes and high staff turnover rates and results in an inexperienced workforce of care providers. There is a need to address secondary traumatic stress among child welfare workers using a systematic, organizational approach to reduce staff turnover and improve the quality of care delivery to children. New Jersey child welfare services are delivered via Care Management Organizations that often struggle to meet the federally mandated goals of child safety, protection, permanency, and wellbeing. Child well-being is often not addressed, and knowledge regarding trauma-informed care is often lacking among child welfare workers. The purpose of this capstone project was to investigate whether implementation of trauma-informed care practices in a child welfare service delivery setting resulted in decreased turnover and secondary traumatic stress symptoms among workers. Using the evidenced-based National Child Traumatic Stress Network Child Welfare Trauma Training Toolkit, a Care Management Organization’s service delivery design was changed to become trauma-informed and the impact of the change evaluated using measures of turnover rates and workers’ compassion fatigue, secondary traumatic stress, and professional quality of work life. This project was guided by this question: At a Care Management Organization, will the use of the evidenced-based Trauma-Informed Child Welfare System Toolkit model, compared to the use of standard operating practices for routine care coordination, reduce staff turnover and reports of secondary traumatic stress in child welfare workers within a 2-month period?

Keywords: trauma, child welfare workers, secondary traumatic stress
# Table of Contents

DEDICATION .................................................................................................................................i

ACKNOWLEDGEMENTS ........................................................................................................... ii

ABSTRACT ................................................................................................................................. iii

CHAPTER 1: Problem

Background ................................................................................................................................. 1

Problem Statement .................................................................................................................... 3

Study Question PICO ................................................................................................................ 4

Definitions .................................................................................................................................... 4

CHAPTER 2: Evidence

Search Process ............................................................................................................................ 7

Literature Review ....................................................................................................................... 7

Summary .................................................................................................................................... 10

CHAPTER 3: Implementation

Purpose, Framework, and Methodology .................................................................................... 11

Theoretical Framework .............................................................................................................. 12

Design ....................................................................................................................................... 13

Practice Setting and Resources ............................................................................................... 14

Feasibility and Resources ......................................................................................................... 14

Sample ....................................................................................................................................... 15

Ethical and Legal ...................................................................................................................... 15

Implementation ......................................................................................................................... 16

Measurements ........................................................................................................................... 19
Timeline .................................................................................................................. 20
Process for Data Analysis ......................................................................................... 21
Budget ...................................................................................................................... 22
Support/Sustainability .............................................................................................. 22
Plan for Disseminating Findings .............................................................................. 23

CHAPTER 4: Results

Data Analysis .......................................................................................................... 25
Formative Evaluation ................................................................................................. 26
Summative Evaluation ............................................................................................... 27

CHAPTER 5: Discussion of Findings/Outcomes

Limitations ............................................................................................................... 28
Implications for Practice .......................................................................................... 29
Conclusion ............................................................................................................... 29

REFERENCES .......................................................................................................... 30

APPENDICES

A. Evaluation Table of Studies .............................................................................. 37
B. Secondary Traumatic Stress Scale (STSS) ......................................................... 45
C. Professional Quality of Life Scale (ProQOL) ...................................................... 46
D. Informed Consent Form ...................................................................................... 47
E. Statistical Analysis ............................................................................................ 48
Chapter 1: Problem

Background

Child maltreatment is a significant problem in the United States, and researchers believe that the growing rates of mental, behavioral, and developmental issues in children are related to the prevalence of childhood adversity (Olson & Keren, 2015). The U.S. Department of Health and Human Services (DHHS) Child Maltreatment 2014 report indicated that, nationally, 3.2 million children received child welfare services, with 686,000 of them being victims of abuse. According to the New Jersey Department of Children and Families (2016), more than 50,000 children receive care annually through the Children’s System of Care (CSOC), and almost 10,000 of those have had substantiated experiences of abuse.

In spite of the mandates to address emotional trauma and child wellbeing included in the federal Child and Family Services Improvement and Innovation Act of 2011, child welfare systems often do not address the mental health needs of traumatized children. The Act requires not only that all state child welfare systems screen and treat emotional trauma associated with child maltreatment but also that administrators implement evidence-based practices and reorganize infrastructure to support interventions (DHHS - Administration for Children and Families, Children’s Bureau, 2012). While the New Jersey CSOC is initiating systematic changes to comply with the Act, local child welfare agencies do not have the capacity or resources to make the required changes. Agencies fail to refer children for trauma-related mental healthcare and may re-traumatize children in their care.

Adherence to trauma-informed care best practices is lacking, and child welfare services are negatively impacted by lack of staff knowledge, as well as secondary traumatic stress (STS) in workers and staff turnover. Child welfare workers are more likely to experience STS and burnout than all other types of behavioral healthcare professionals (Sprang, Craig, & Clark,
One study identified as many as 92% of 187 child welfare workers reporting symptoms of STS (Bride & Jones, 2006). The greatest risk for STS is among child welfare workers who have had childhood exposure to trauma themselves (Bride & Jones, 2006). Secondary Traumatic Stress, also called compassion fatigue or vicarious trauma, affects cognitive, emotional, behavioral, interpersonal, and physical areas as well as job performance, including increases in errors; avoidance of duties; and poor morale as evidenced by negative attitude, apathy, or dissatisfaction (Bride & Jones, 2006). The U.S. General Accounting Office conducted a study of 585 child welfare staff from 27 agencies in four states and found that the issues of low pay, risk of violence, high caseloads, understaffing, inadequate supervision and training, and administrative burdens were blamed for turnover (Reid, 2003). It is believed that turnover among child welfare workers contributes to delays in permanent placements for children, lower quality of services, communication errors, and stressed workers with high caseloads (McMahon, 2000). The National Child Welfare Workforce Institute (NCWWI, 2016) reported that the agency cost for each child welfare worker who leaves the organization is $54,000, resulting in an estimated total cost of 5% of an organization’s annual operating budget (Garcia, McGeary, McGeary, Finley, & Peterson, 2013).

Researchers believe that child welfare workers’ critical thinking skills are affected by the inability to change clients which results in organizational trauma if not addressed (Administration for Children’s Services - New York University Children’s Trauma Institute, 2012). Overall, literature is lacking about the system integration of trauma-informed care and trauma expertise in child welfare agencies. The DHHS Administration on Children and Families, Children’s Bureau (2016), described the child welfare system as an over-taxed and complex network of overlapping and intersecting agencies. The child population served at the local level
by a Care Management Organization (CMO) is predominantly low income, minority children who are known to the CSOC because of a lack of caregiver or stable family (many do not live with a biological parent) or incidents of abuse, neglect, or violence. Many of the children have been adopted, have been placed in kinship care, or are living in foster care. These children often have issues of abandonment and low self-esteem and receive mental health services for diagnoses including attention deficit disorder, hyperactivity, depression, oppositional defiance disorder, anxiety, bipolar disorder, and suicidal ideation. In addition, many youth served by the CMO have been classified as learning disabled, and multiple providers oversee their Individualized Education Plans (IEP). Child welfare organizations like a CMO must address the systemic impact of trauma via evidence-based practices and approaches and create workplaces that increase resilience and decrease STS among child welfare workers.

**Problem Statement**

In spite of federal and state directives to address child well-being and mental health needs through integrating trauma-informed care, New Jersey child welfare agencies are not meeting the child well-being mandate or implementing trauma-informed care practices, including staff self-care for STS. The lack of mental health treatment for traumatic childhood events contributes to poor health and negative long-term outcomes as adults. Child welfare staff experience STS regularly, resulting in high turnover that decreases the capacity to provide high-quality services to traumatized children, negatively impacts outcomes, and increases costs. A need exists to implement a trauma-informed service system of care at a child welfare CMO so that direct care staff can ensure that:

- Children are restored to well-being through effective care planning that enables necessary mental health services.
• Administration creates a workplace environment that manages secondary traumatic stress in staff, decreases turnover, and improves the quality of services provided to children in New Jersey CSOC.

**Study Question PICO**

The study framework proposed was to implement the National Child Traumatic Stress Network Trauma-Informed Care evidence-based practice model, *The Child Welfare Trauma Training Toolkit: Trainer’s Guide* (2nd ed.; CWTIT) as an innovative practice intervention to create a trauma-informed culture of care in a CMO (based upon the Chadwick Trauma Informed Child Welfare Demonstration Project; Child Welfare Committee, National Child Traumatic Stress Network & The California Social Work Education Center, 2013). The PICO question for this capstone project was: At a CMO, will the use of the evidenced-based CWTIT Toolkit model, compared to the use of standard operating practices for routine care coordination, reduce staff turnover and reports of STS in child welfare workers within a 2-month period?

The proposed evidence-based CWTIT Toolkit implementation used the PICO question framework described by Melnyk and Fineout-Overholt (2011):

**Population** = All male and female staff employed at the CMO.

**Implementation** = Implementation of the evidence-based CWTIT Toolkit for trauma-informed environment and care-delivery systems.

**Comparison** = The current standard operating practices for routine care coordination of child welfare services.

**Outcome** = A reduction in staff turnover and STS among staff.

**Definitions**

Key terms used in this study are defined as follows:
Adverse Childhood Experiences. These are early childhood experiences that can have a negative effect on an individual’s well-being as an adult (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014).

Burnout. The state of emotional exhaustion, depersonalization, and reduced feeling of personal accomplishment that develops as a result of occupational stress (Sprang & Ross, 2011).

Compassion fatigue. Also called secondary traumatic stress; occurs as a result of one’s occupation when the exposure to the traumatic event is secondary (Stamm, 2005).

Compassion satisfaction. Helping professionals’ experience of positive relationships with coworkers, feelings of competent performance, and belief that they are doing meaningful work that contributes to the wellbeing of their clients (Sprang & Ross, 2011).

Complex trauma. Exists when an individual has had repeated exposures to the same type of trauma over time or has had multiple types of trauma and there is an impact from the traumatic exposure on immediate and long-term health (SAMHSA, 2014).

Resilience. An individual’s capacity to cope with adversity using resources and coping skills to process hardship (SAMHSA, 2014).

Re-traumatization. Occurs when an individual re-experiences traumatic stress due to a current situation that repeats a prior traumatic experience or components of a prior traumatic experience (SAMHSA, 2014).

Secondary trauma. Occurs when exposure to another individual’s traumatic experience results in a trauma-related stress reaction and symptoms in another person (often seen in professional helping roles like behavioral health service providers, first responders, clergy, or intake workers; SAMHSA, 2014).
Secondary Traumatic Stress. The experience of PTSD symptoms caused by one or more indirect exposures to traumatic information; often used interchangeably with vicarious trauma and compassion fatigue (Sprang & Ross, 2011).

Trauma. A series of events or a situation that is perceived by an individual as physically or emotionally harmful and/or possibly life-threatening; negatively affects the person’s ability to function and mental, physical, social, emotional, or spiritual well-being (SAMHSA, 2014).

Trauma-informed care. An approach to care delivery, usually in behavioral health services, that is based upon an understanding of trauma and knowledge of the impact of trauma across populations and within the context of culture and environment. Trauma-informed care uses a continuous approach of anticipating and preventing triggers within processes and practices that are likely to re-traumatize individuals. Trauma-informed care emphasizes the consumer’s choice in the development, delivery, and evaluation of services (SAMHSA, 2014).

Trauma-Informed Child Welfare System. A collection of programs and organizations in which all involved know the impact of traumatic stress on children, caregivers, and the people with whom they have contact in the system. The trauma skills are integrated into the organizational culture, policies, and practices with all working together to support resiliency and recovery from trauma (Child Welfare Collaborative Group, National Child Traumatic Stress Network & The California Social Work Education Center, 2013).

Trauma-informed practice. The field of services and programs specifically created to address the impact of traumatic stress (SAMHSA, 2014).

Vicarious trauma. Cognitive changes in a therapist following cumulative exposure to another person’s traumatic experiences; results in the professional’s changes in cognitive frame of reference for areas of trust, safety, control, esteem, and intimacy (Sprang & Ross, 2011).
Chapter 2: Evidence

Search Process

A comprehensive literature search was conducted using the Cochrane Library, the Cumulative Index of Nursing and Allied Health Literature (CINAHL), Psych Info, and PubMed databases using keywords such as trauma-informed care, secondary traumatic stress, child welfare workers, compassion fatigue, and adverse childhood experiences. The search was limited to articles published from 1998 to 2016. Based upon a critical appraisal, 14 articles were selected.

Literature Review

Adverse childhood experiences have a lifelong impact on individuals. As evidenced by the landmark 1998 Adverse Childhood Experiences (ACE) study by Felitti and colleagues, ACE exposure was linked to social, emotional, and medical problems throughout the lifespan, including leading causes of death in adults. The ACE survey addressed seven categories of childhood exposure. The findings showed that more than half of the 9,000 participants reported one ACE and 25% reported two or more (Felitti, et al., 1998). When the ACE categories were compared to adult risk behaviors, health status, and disease, there was a graded relationship to diseases like ischemic heart disease, cancer, lung disease, skeletal fractures, and liver disease (Felitti et al., 1998).

Maltreated, trauma-exposed children have difficulty with cognitive, social, and emotional developmental tasks, and the child welfare worker’s role is critical to successful outcomes, as the worker is responsible for coordinating interventions that will enable the traumatized child and family to recover from the adverse events (Chadwick Trauma-Informed Systems Project, 2012). However, in an online survey of child services providers (n = 94), 70% reported one ACE category, 58% reported two or more, and almost 16% reported four or more (Esaki & Larkin,
2013). Furthermore, Esaki and Larkin (2013) maintained that career choice of social worker was associated with psychosocial trauma in early life when they found that 73% of graduate social worker students surveyed reported significant family stressors.

Another study examining exposure to stress and trauma by child welfare workers found that 60% of workers had been assaulted on the job and 70% had been verbally threatened (Regehr, Leslie, Howe, & Chau, 2000). When child welfare staff were assessed for emotional distress using the Impact of Event Scale (IES), 82.7% reported signs of Post-Traumatic Stress Disorder (Regehr et al., 2000). The consequences of STS among child welfare staff are significant, as researchers found that the higher the STS score, the less likely the worker was to remain in child welfare services and the poorer the health outcomes of staff (Bowers & Brooks, 2015). According to Bloom (2010), chronic stress in a workplace impacts the staff’s ability to take part in decision-making processes, constructively problem solve, or participate in complex problem solving. Secondary Traumatic Stress has also been found to influence clinicians’ assessment of child abuse risk: The higher the number of previous critical events experienced by the worker, the greater the negative impact on the clinician’s ability to assess child abuse risk (Regehr, Leblanc, Shlonsky, & Bogo, 2010).

Compassion satisfaction is defined as the positive feelings experienced as a result of helping others (Van Hook et al., 2011). Research has shown that emotionally supportive work environments may protect against the psychological impact of working with traumatized clients (Garcia et al., 2013) and that group cohesiveness and a team-oriented practice are effective strategies to reduce stress among workers (Perry, 2014). A study of Colorado child protection workers found that as workers’ compassion satisfaction measures increased, their compassion fatigue levels decreased (Conrad & Kellar-Guenther, 2006). Similarly, in another study of
compassion fatigue and burnout, staff with higher levels of compassion satisfaction were
correlated with lower levels of compassion fatigue (secondary trauma; Pearson Correlation -.635, p <.01; Van Hook et al., 2011).

Child welfare organizations may mitigate STS by implementing theoretically sound
evidence-based practices, like trauma-informed care, which can strengthen the positive impact of
compassion satisfaction and prevent the negative impact of compassion fatigue (Caringi, Lawason, & Devlin, 2012). The National Child Traumatic Stress Network (2011) advocated for
both individual and supervisory awareness of the impact of STS as a basic protective factor for
cchild-serving professionals, while others have suggested that support from peers, supervisors,
and the organization may mitigate risk of STS (Bride & Jones, 2006). When staff had confidence
in their supervisor’s abilities and felt supported by the supervisor, STS symptoms were reduced
(Bowers & Brooks, 2015). Perry (2014) advised that program directors, mid-level managers, and
supervisors should work to create a positive climate in order to mitigate the stressors and
individual stress reactions experienced by child welfare staff.

The University of Maryland, School of Social Work Research conducted a review of 25
studies on the factors that influence retention of child welfare workers, concluding with five
recommendations. These recommendations included increasing education opportunities and
resources available related to the 2011 Child and Family Services Improvement and Innovation
Act and establishing a child welfare worker studies clearinghouse that provides technical
assistance for workforce improvements like supervisory training (Zlotnik, DePanfilis, Daining,
& McDermott Lane, 2005). A 2010 SAMHSA-funded demonstration project to create trauma-
informed child welfare systems, the Chadwick Trauma-Informed Systems Project, was
successfully piloted in California, Oklahoma, and New Hampshire and provided qualitative data
that resulted in the best practices guide called the *Child Welfare Trauma Training Toolkit: Trainer's Guide* (Child Welfare Collaborative Group, National Child Traumatic Stress Network & The California Social Work Education Center; Hendricks, Conradi, & Wilson, 2011). The Toolkit framework is grounded in the understanding of trauma and the need for physical, psychological, and emotional safety, as well as treatment strategies that empower and create a sense of control (Hendricks et al., 2011).

**Summary**

Research indicated that many child welfare workers have experienced adverse childhood events, and these workers are exposed to the occupational hazard of STS. Obstacles to effective treatment of traumatized children by child welfare systems include staff STS, turnover, and poor quality of child welfare services. Traumatized workers are less likely to accurately assess a child’s risk for abuse, although support by peers and supervisors reduces STS among child welfare workers. A service delivery system that has a trauma-informed view will have an operating environment that supports healing from traumatic stress. It has been recommended that child welfare organizations develop staff, train supervisors, and use evidence-based practices like trauma-informed care in service delivery settings so that the workers’ self-care needs are met and a trauma-informed culture exists that is empowering, adheres to procedural and distributive justice practices, and demonstrates worker appreciation (Bride & Jones, 2006). Implementation of the evidence-based practices of the CWTT Toolkit was expected to mitigate STS among child welfare staff, decrease staff turnover, and enable child well-being by fostering recovery from traumatic exposures. It was expected that using a system-wide approach to create and sustain a trauma-informed culture at the Care Management Organization would improve the service delivery practices, increase staff retention and address STS among the child welfare workers.
Chapter 3: Methodology and Implementation

Purpose, Framework, and Methodology

The two-fold purpose of this capstone project was (a) to implement trauma-informed knowledge into the service delivery activities and work environment of a Care Management Organization (CMO) that serves over 650 children a month who have a history of traumatic adverse events and (b) to evaluate if replicating the evidence-based Child Welfare Trauma-Informed Training (CWTT) Toolkit practices and implementing a trauma-informed service delivery system resulted in a decrease in STS and turnover in the CMO staff serving an urban population in Northern New Jersey. The overarching goal was to change the CMO practice model, which required that CMO leadership and staff were equipped with the tools and skills necessary to sustain the change, manage their own STS, and create a workplace environment that would enable them to better assist the children and families in their care. The researcher implemented the Toolkit completing the following objectives:

- Assessment of the current trauma-informed care culture and readiness for change using the Trauma System Readiness Tool (TSRT; Trauma, 2013).
- Development and coaching of a leadership team in order to support and sustain the practice changes.
- Training of the supervisor cohort to be trauma-informed and competent in assessment of STS behaviors in staff.
- Evaluation of staff knowledge of trauma-informed care pre and post training.
- Training of all direct care staff in trauma-informed care using the evidence-based curriculum of the Toolkit and the seven elements of a trauma-informed child welfare system.
• Supporting seven self-governed, democratic workgroups (representative of workers across the CMO) that were responsible for making procedure changes aligned with the Toolkit’s essential elements of best practices.

• Coaching of supervisors related to fidelity to the CWTT Toolkit.

• Comparison of measures of STS in staff before and after the interventions of training and practice changes using the Secondary Traumatic Stress Scale (STSS) and Professional Quality of Life (ProQOL) survey tools.

• Recommendation of strategies to sustain the trauma-informed service delivery system of care changes and communication of the findings.

Theoretical Framework

The theoretical framework in this study was based on Melnyk and Finout-Overholt (2013) model for implementing evidence-based practice, the theories of trauma and the essential elements of the evidence-based Trauma Training Toolkit as well as the change model developed by Rosswurm and Larrabee (1999). Rosswurm and Larrabee recommend a six-step model for implementing evidence-based practice change. The Child Welfare Trauma Training Toolkit model was based on knowledge of the human neurobiological stress reaction, the bio-psycho-social impact of trauma, and the characteristics of a trauma-informed child welfare system. A trauma-informed child welfare system is defined as:

a system in which all parties involved recognize and respond to the varying impact of traumatic stress on children, caregivers, families and those who have contact with the system. Programs and organizations within the system infuse this knowledge, awareness and skills into their organizational cultures, policies and practices. They [will] act in
collaboration, using the best available science to facilitate and support resiliency and recovery. (Chadwick Trauma-Informed Systems Project, 2012, p. 11)

The following seven essential elements of the Toolkit created a structure and process for implementing the best evidence-based practices into the CMO service system:

1. Maximize physical and psychological safety for children and families.
2. Identify trauma-related needs of children and families.
3. Enhance child well-being and resilience.
4. Enhance family well-being and resilience.
5. Enhance the well-being and resilience of those working in the system.
6. Partner with youth and families.
7. Partner with agencies and systems that interact with children and families. (Child Welfare Collaborative Group, National Child Traumatic Stress Network & The California Social Work Education Center, 2013)

Design

This capstone project’s design was an innovation in practice that was evidence-based and used system changes such as policies and practice changes to create a trauma-informed culture. The evidence-based trauma-informed care model was tested through the National Center for Child Traumatic Stress and successfully demonstrated improvements in service delivery and client outcomes at the California Chadwick Center for Children and Families. The implementation of the Child Welfare Trauma Toolkit was guided by Rosswurm and Larrabee (1999) six-step model of evidence-based practice change which uses team work tools and principles of quality improvement (Melnyk & Fineout-Overholt, 2011). The CMO employees were required to adhere to policy changes to become “trauma-informed” and to participate in the
training and work-group implementation of the essential elements. All staff were informed of the project’s purpose, method, and measurement tools for evaluation of impact.

**Practice Setting and Resources**

The setting for this evidence-based practice project was a CMO founded in 2002 as a part of the New Jersey child welfare system reforms. The CMO, which serves an urban geographic area in northern New Jersey, used the Care Practice Model, which was based on a collaborative relationship between care coordinators and families (New Jersey Division of Children and Families, 2013). CMO supervisors are master’s degree-prepared social workers, and the care coordinators must have a bachelor’s degree in human services or child development. Each care coordinator carries a case load ranging from 15 to 22 children. The CMO requires that contact with each child occurs monthly, at minimum. Staff ethnicity is as follows: (a) Hispanic - 49%, (b) African American - 21%, and (c) Caucasian - 30%. Staff turnover for January through June 2016 was 12% of the 65 total employees.

**Feasibility and Resources**

There was executive administrative support of project resources including the time commitment and personnel involvement as well as the financial impact related to model implementation. Staff training is a budget line item, and the organization’s leadership supported the additional costs associated with implementing the CWTT Toolkit. Human resources within the CMO included members of the leadership team such as the executive director, clinical director, operations managers, and supervisors. Support staff and care coordinators also participated as members of the workgroups. The target intervention population was the care manager staff involved in direct care. The project was approved by the Institutional Review Board (IRB) of St. Peter’s University.
Sample

The CMO employs a total of 65 staff; all received training related to trauma-informed care, professional and nonprofessional. The nonprofessional support staff received a three hour training of trauma-informed care and the project overview. The professional direct care case-managers and supervisors were trained in the full 2-day training of the CWTT Toolkit implementation. These staff that provided direct care services was selected as the purposive sample to complete the measurement tools. All were part of a workgroup that was assigned one of the essential elements. The care managers performed job duties of Child Welfare Workers. This sample was 82% female (37 females and 8 males) and the mean age of a care manager was 29 years old. It was not anticipated that the CWTT Toolkit intervention would harm any staff member. All were informed of the potential for a traumatic trigger and of their right to decline completing the measurement tools. Within the group, 12 declined completing the measurement tools at the onset of the project, four of these were male. A power analysis was not done as the sample was exhaustive and derived from the total available sample of care manager personnel.

Ethical and Legal

This project was an innovative practice initiative intended to create a change in organizational culture and establish a service system of trauma-informed practices and knowledgeable staff at the CMO. It was a low-risk intervention and not expected to cause harm to any participant. Staff that were identified as being at risk for project-related stress were supported by their supervisors to opt out of the surveys (i.e., STSS and ProQOL). Children were not the subject of the study project, and no identifying personal data of any participating staff member was reported. All data were collected anonymously and the results reported in an aggregate. Informed consents were obtained from the participants who completed the ProQOL
and STSS survey tools. All staff were informed of the specific data collection tools that were being used and the possibility of a traumatic trigger. Any child welfare worker could decline to participate in the STSS and ProQOL survey tools at either data collection time point. Trauma-prepared clinicians were available during regular business hours to assist staff individually with stress and trauma-related concerns. In addition, information was distributed regarding the CMO Employee Assistance Program resource which offers free behavioral health services to all staff. There was no conflict of interest or personal gain related to the selection of the Toolkit or its implementation. The researcher requested and received an expedited IRB review process.

Implementation

The project design had three phases that involved establishing the leadership team structure, engaging staff in the change process, training in trauma theory, and introducing the CWTT Model tools, and establishing procedures for outcome evaluation. During the first phase, the researcher administered the Trauma System Readiness Tool to the leadership team to assess readiness for change and current degree of trauma-informed culture. The TSRT was developed by the National Child Traumatic Stress Network and collects data on a 6-point Likert scale (ranging from strongly disagree to strongly agree) in five domains (Hendricks et al., 2011). The TSRT aligns with the Essential Elements of the Trauma-informed CW System recommendations and was developed and tested by Hendricks et al. in 2011 (Trauma, 2013). The TSRT was given to leadership team as a snapshot assessment of the trauma-informed nature of the CMO system. The TRST asks participants to respond to questions across domains which are:

- The agency’s understanding of the impact of child traumatic stress on children in care
- The agency’s understanding of parent/adult trauma history and its impact on parenting and parents’ response to services.
• Trauma and child welfare system

• Vicarious trauma in professionals in the child welfare system

• System integration and service coordination with other child serving agencies

(Trauma, 2013).

The Leadership team’s TSRT survey responses (N = 5) suggested agreement with all but four indicators from across the domains. The domains that were rated below agreement were:

• The System’s ability to assess parent trauma and its impact (1.95 out of possible 6.0).

• The System’s ability to address parent trauma and its impact (2.2 out of possible 6.0).

• The presence of psychological safety (2.55 out of possible 6.0).

• The System’s provision of education and support to caregivers (2.7 out of possible 6.0).

During the first phase, the researcher met with the leadership team, introduced the CWTT Toolkit and established a train-the-trainer program. The leadership team consisted of the Doctor of Nursing Practice candidate, the CMO director, the clinical director, the two operations managers, and seven supervisors. This team reviewed with the researcher strengths and opportunities identified by the TSRT. In addition, the leadership team was taught trauma-informed care theory, the CWTT Toolkit itself, the need for the project, and the project timeline. The training content addressed the directive from the national Administration for Children and Families and New Jersey Department of Children and Families to child welfare system providers to be trauma-informed and address child wellbeing needs, the neuro-biological impact of traumatic stress, and ACE’s long-term health implications.

The second phase used the Toolkit training materials to provide 2 days of direct care staff training (13 hours total) in the seven essential-elements of a trauma-informed child welfare
system of care. The existing service-delivery teams consisted of five to six care managers each and were used as the structure for workgroups with each assigned to implement one of the essential elements. During the training, the care managers were informed of the specific essential element that they were assigned to implement with their workgroup.

Following the training, the care manager workgroups met every other week to discuss their essential element, how it was being met at the CMO and to create an action plan for addressing the essential element’s existing practice into a trauma-informed practice. The action plans developed included steps such as (a) creating trauma-informed mission and values statements, (b) using supervisory interventions that were focused on empowerment, (c) reviewing related policies and procedures to reflect a trauma-informed mission, (d) evaluating compliance with universal trauma screenings, (e) creating a plan for future trainings based on trauma-informed care, and (f) recommending trauma-informed practices for integration into hiring and retention practices (CWTT Toolkit, 2013). The workgroups used democratic processes to prioritize their recommended strategies for implementation in the CMO environment, daily operations, and service delivery. The researcher and members of the leadership team provided the workgroup members with ongoing guidance and coaching based on the Toolkit as well as support for implementing each of the essential elements. Ongoing formative feedback guided a plan for future practice changes to align with the CWTT Toolkit.

During the third phase, summative evaluation in the form of feedback and outcome measurement data were collected, analyzed and discussed with the leadership team. The impact of the intervention on care manager staff was evaluated through the STSS and ProQOL self-reports of STS, compassion fatigue, and quality of work life. Pre and post intervention of turnover rates for the 2015 2-month period were compared to the October and November 2016
rates. In October and November of 2015, four female care managers resigned, all with 5 years or less experience in child welfare and years employed with the CMO. The ages ranged from 27 to 39 years old; three were Latina and one was African American. In October and November of 2016, one 32-year-old Caucasian female with 2 years of experience in child welfare services resigned.

Measurements

The project intervention’s impact was expected to create a trauma-informed environment and a service system that would decrease staff STS and turnover at the CMO. The impact was measured with data collected at two points in time: pre and post intervention using two validated tools. These tools measured the self-reported symptoms of STSS (STSS; Bride, Radey, & Figley, 2009) and the ProQOL (Stamm, 2010). The STSS uses a Likert scale that corresponds to one of the 17 PTSD symptoms listed in the American Psychiatric Association 2000 Diagnostic and Statistical Manual of Mental Disorders (Beck, 2011). The tool was developed specifically to assess worker exposure to clients’ traumatic stress and has demonstrated high levels of internal consistency among trauma professionals (alpha reliability of .87; Beck, 2011). The instrument was tested on 287 licensed social workers and found to be a reliable and valid measure of clinicians’ negative exposure to traumatic events from their work with traumatized patients, demonstrating both convergent and discriminant validity (Bride, Robinson, Yegidis, & Figley, 2004). The ProQOL Scale, a workplace quality of life tool developed by Stamm (2010), is a 30-item scale that addresses compassion satisfaction, compassion fatigue/STS, and burnout (Van Hook et al., 2008). Although initially developed for therapists, the ProQOL has been used with a range of trauma professionals and has shown an alpha score reliability of .87 (Van Hook et al., 2008). According to Stamm (2010), the ProQOL examines work-related secondary exposure to
traumatic stress and previous research has shown the coefficient alpha ranging from 0.83 to 0.89 reliability.

Timeline

Following approval by the St. Peter’s University IRB, the researcher implemented the change initiative, adhering to the outlined process in the CWTT Toolkit and working with the CMO leadership team and staff workgroups to modify procedures, policies, and practices needed to produce the trauma-informed system of care. An overview presentation with the CMO leadership team staff occurred on September 20, 2016, and the support staff attended a presentation on September 23, 2016. The TSRT was given to the leadership team staff on September 20. The direct care staff attended the first day of training on September 30 and the second day on October 7, 2016. All staff were informed of the potential of a traumatic trigger while completing the measurement tools baseline data collection process (the STSS and ProQOL surveys). Staff were informed of the availability of on-site support and given permission to opt out of the survey tool data collection. Following an informed consent process, the STSS and ProQOL data collection tools were completed by willing direct care staff on October 7, 2016. At the first data collection point in time, 32 care managers completed the STSS tool and 34 completed the ProQOL tool.

The leadership team met every other week beginning September 21, 2016, to review the key points of the training content and subsequently to review the initial findings from the TSRT. A knowledge test on trauma-informed care was given on the first day of the two staff training days held on September 30 and October 7. The post training knowledge tests was given to participants on October 7. The researcher met with the leadership team on October 17 to share the posttest and training evaluation findings. Based upon the feedback from the team, additional
guidance from the Toolkit on the assigned essential element was provided and re-instruction
given during workgroup team meetings. At the Leadership Team meetings anecdotal feedback
was shared with the researcher. The researcher coached the leadership team to be mindful of role
modeling trauma-informed behaviors throughout implementation and to use the CWTT Toolkit
language and trauma-informed interpersonal supervisory approaches.

The care manager workgroup meetings included discussion of action plan progress and
additional recommendations for practice changes to enable a trauma-informed system within the
CMO such as the creation of an “unmet needs” fund to provide resources to traumatized families.
The researcher observed and collected anecdotal feedback from the staff workgroup meetings.
The leadership team members and the researcher discussed identified learning gaps, observed
changes in staff behaviors, and additional actions needed to reinforce the CWTT Toolkit
implementation process steps including integration into quality monitoring activities.

The STSS and ProQOL tools were administered for the second time the week of
November 28, 2016. There was one staff resignation in October and November 2016 (rate per 61
days = .016) and four resignations during the months of October and November 2015 (rate per 61
days .065). The reasons given among two of the four 2015 staff included returning to school
fulltime and full time care of children. The organization reported a 12% annual turnover rate in
June 2016. The researcher met with the leadership team the week of December 12 to share a
summary of the work-groups’ outputs and a consolidated action plan from each groups’ essential
element. In January 2017, a staff meeting and a presentation to the Board of Trustees is planned.

Process for Data Analysis

Data were analyzed using SPSS 23 paired samples t test, descriptive, correlational and
inferential statistics. The scales were evaluated for reliability for the pre and post intervention
data. The STSS had an (a) Intrusion subscale coefficient alpha (Cronbach’s alpha) of 0.783, (b) Avoidance subscale coefficient alpha of 0.796, and (c) Arousal subscale of 0.837. Previous research has shown that these subscales are reliable with coefficient alphas ranging from 0.83 to 0.89 (Bride et al., 2004). The baseline ProQOL results of the surveys completed indicated a compassion satisfaction coefficient alpha of 0.883, a burnout coefficient alpha of 0.722 and a secondary traumatic stress coefficient alpha of 0.866. Stamm (2010) reported findings from previous research that these subscales are reliable with correlation coefficient alphas ranging from 0.75 and 0.88.

Budget

The CWTT Toolkit is disseminated through the National Child Traumatic Stress Network and the Chadwick Center for Children and Families through funding provided by the SAMHSA and is free for public use. Printing costs for copies of the Participants Handbook, The Trainer’s Guide and the STSS and ProQOL tools were $600. Other costs associated with the project included lunch during the training days and consultation with a statistician. The CMO’s personnel costs did not increase except for additional coverage for the receptionist to attend the training. The researcher funded the costs of training materials, lunch and the statistician.

Support/Sustainability

The project was fully supported by the CMO Board of Trustees and executive director. The internal leadership team is motivated to sustain the comprehensive trauma-informed care training with new employees and to reinforce adherence to the CWTT Toolkit with current staff. All staff were directed to use the tools and resources provided online through the National Child Traumatic Stress Network.
The Leadership Team will continue to function as ongoing mentors to staff, sustaining trauma-informed practices and reinforcing fidelity to the CWTT Toolkit as well as ensuring mastery of supervisory skills that support the trauma-informed care system. The leadership team, staff attitudes and beliefs supported acceptance of the value of this evidence-based project and will assist with long-term sustainability.

Plan for Disseminating Findings

In January 2017 all care management staff will be informed of the aggregated findings from a comparison of the pre and post intervention ProQOL and STS findings. A leadership team debriefing meeting will be held on December 14, 2016 to communicate the project summary and discuss future recommendations. Final project information will be disseminated to all staff using site-based communication strategies, such as memos attached to payroll, bulletin board announcements, e-mail blasts, and staff meetings. In addition, external dissemination of the findings will occur via poster or podium presentations to professional groups or social worker and nursing research conferences, as well as publication in professional journals.
Chapter 4: Results

One of the project’s initial objectives was to assess the trauma-informed culture and readiness to change. The care managers were asked to complete a trauma-informed child welfare system worker self-assessment during the first day of training, September 30. The indicators were stated in a positive response, and the care managers answered if they agreed with the statement by selecting rarely, sometimes, or always. Among the 11 indicators, 4 were answered as rarely by 17% to 19% of the respondents. The rarely responses were to the following statements:

- I include family resilience factors in case plans.
- I recognize the impact of secondary traumatic stress on me as a helping professional.
- I know how to partner with youth and families in a trauma-informed manner.
- I regularly discuss trauma issues with cross system partners.

Action plans developed by the teams addressed these gaps, and implementation is ongoing. Among care managers, 56% indicated that they always “Understand the impact of trauma on a child’s relationships,” which was the highest scored out of the 11 indicators. The leadership team completed the TSRT, indicating gaps related to assessment and interventions concerning parent trauma, trauma education to caregivers, and a climate of psychological safety. Each of these areas was addressed by an essential elements workgroup. Overall, the findings showed an awareness of trauma-informed care elements and readiness to change, suggesting specific practices that could be strengthened.

Also evaluated on the first day of training was the trauma knowledge pretest. The cohort had an average of 6 incorrect answers out of 13 questions, and 18% had a passing pretest score of 70 or greater. The trauma knowledge posttest was given at the end the second day of training,
at which time there was an average of 4 incorrect answers and 61% had a passing score of 70 or better.

Following an informed consent process, the care manager staff were asked to complete the ProQOL and STSS measurement tools on the second day of training. Staff were informed that participation was voluntary, and they had the right to not complete the tools. During the first round of data collection, 37 care managers completed the ProQOL tool, and 31 completed the STSS tool. At the second point in time, 32 care managers completed the ProQOL, and 29 completed the STSS tool. These findings were compared to the pre intervention responses.

Data Analysis

Pre and post intervention Cronbach’s alpha analysis suggested data reliability as well as independence of each subscale with each other, indicating that different concepts were measured (see Appendix E, Table E1). The CMO project data were compared to findings in the literature (see Figure E1 and Figure E2). According to Stamm (2010), both the ProQOL average compassion satisfaction score and burnout score are 50 ($SD = 10$). Stamm reported the average ProQOL STS score was 50 ($SD = 10$, alpha reliability = .81), and individuals who score above 57 fall into the top 25%. Previous studies of ProQOL scores across demographic categories demonstrated a slightly lower score for males across all three measures of compassion satisfaction, burnout, and secondary traumatic stress. For example, the compassion satisfaction score was 49.01 for males and 50.14 for females; likewise, the secondary traumatic stress score was 49.05 for males and 50.18 for females; however, these differences were not statistically significant (Stamm, 2010). According to the literature, the only demographic category that demonstrated a statistical difference was race, with burnout and STS scores being lower among whites ($p < .001$; Stamm, 2010). The CMO sample population did not have any statistically
significant difference in the demographic categories in the post intervention for both scales (see Appendix E, Table E2). The ProQOL data among the CMO staff \((n = 37)\) demonstrated a mean compassion satisfaction score of 39.32 \((SD = 5.36)\), burnout score of 21.40 \((SD = 5.57)\), and STS score of 21.08 \((SD = 6.43)\). According to Bride (2007), research among social workers found the following STSS scores: intrusion score of 8.18 \((SD = 3.04)\), avoidance score of 12.58 \((SD = 5.0)\), arousal score of 8.93 \((SD = 3.56)\), and total stress score of 29.69 \((SD = 10.74)\). The STSS scores among the CMO staff \((n = 31)\) indicated total stress score of 28.83 \((SD = 9.32)\), intrusion score of 8.5 \((SD = 2.65)\), avoidance score of 11.67 \((SD = 4.1)\), and arousal score of 9.06 \((SD = 3.65)\).

Both the ProQOL and STSS scores were not statistically significant for differences post intervention (see Appendix E, Table E3, Figure E1, and Figure E2). Correlations between the subscales suggest they are independent of each other, with Pearson’s \(r\) ranging from -0.401 to 0.791 for significant relationships (see Appendix E, Table E4).

**Formative Evaluation**

Over the project period, the researcher met with the supervisors both individually and as a group to address the role expectations and to provide additional resources for learning needs. The intent of the project was to implement the evidence-based practices of the Trauma Training Toolkit and empower supervisors to sustain the changes in practice. This was structured through the supervisor-led workgroups and resulted in multiple positive changes. At the onset of the project, the supervisors identified via the TSRT survey three areas not being addressed:

- The System’s ability to assess and address parent trauma and its impact (1.95 and 2.2 out of possible 6.0, respectively).
- The presence of psychological safety (2.55 out of possible 6.0).
• The System’s provision of education and support to caregivers (2.7 out of possible 6.0).

The workgroups addressed these issues in their strategies, which included (a) revisions to the Strength and Needs assessment implemented on December 1, (b) addition of a trauma-certified counselor as a staff resource for both personal debriefing needs and in consultation with child service plans, (c) plans to provide parent education on trauma, and (d) organization of an event for cross system partners trauma-informed care learning needs among stakeholders. CMO workers’ training needs are being addressed in the 2017 training calendar and will include attendance at DCF trauma-informed care trainings available through Rutgers University.

**Summative Evaluation**

Organizational culture change is a process that requires time and reinforcement of new behaviors for changes to be institutionalized. The ongoing process of implementing the Toolkit and creating a trauma-informed culture will depend upon the leadership team’s ability to sustain the trauma-informed changes and continuously assess alignment with the essential elements of trauma-informed care. An audit tool created for peer review documentation of trauma-informed care practices will be implemented in January 2017, following the implementation of the revised Strengths and Needs Assessment Form. Data collection systems were created for future collection and analysis of the Strengths and Needs Assessment trauma indicators at two points in time: on admission and at 90 days. The Quality Assurance Performance Improvement Coordinator will be responsible for collecting and reporting data quarterly through the standing quality improvement procedures. Overall, the project was perceived as a positive and empowering change, generating creative energy for future improvements.
Chapter 5: Discussion of Findings and Outcomes

Limitations

The success of the organizational culture change to one of trauma-informed care depended on stakeholder buy-in, leadership and support of infrastructure changes, as well as ongoing long-term support of the practice changes. Organizational change requires significant time and reinforcement of changes by a committed leadership team. The degree of buy-in and commitment of time at the workgroup level varied from supervisor to supervisor, as did the supervisor’s capacity to lead group process. The project time frame was limited to a 2-month period, which did not allow for process outcome measurements. The limited time frame may have impacted the outcomes, as the window to build momentum with each workgroup was short.

The care managers are predominately female, Latina, and from the millennial generation; 25 out of the 29 care managers that provided demographic information were less than 35 years old (82%). Within the cohort, almost 52% had 2 years or less of experience in child welfare, and 62% were employed at the organization less than 2 years. In addition, the data collection process took place in a classroom setting as a group. The individuals who opted out of completing the measurement tools tended to be from the same workgroup team sitting in the same general area. The purposive sample used for measuring the STSS and ProQOL data was not a random sample and resulted in a limited number of care manager participants. No efforts were taken related to blinding or preventing the care managers from having information that could have led to bias when completing the second data collection of the STSS and ProQOL measures. Of the sample population, 52% had 2 years or less of experience in child welfare. Perhaps care managers with greater longevity in child welfare would have had different results identified from the ProQOL and STSS tools.
Implications for Practice

Implementing a culture change based on the Child Welfare Trauma Training Toolkit requires a commitment of time and an understanding that successful change evolves over years. Research has shown that reduced turnover predicts improved outcomes in a proficient child welfare organization and organizational culture interacts with turnover (Williams & Glisson, 2014). A culture of trauma-informed care practices needs to be integrated into a structured, continuous quality improvement plan and activities enabling sufficient time and feedback from process-outcome analysis to ensure a lasting change. Future recommendations include developing a long-term plan for evaluating process outcome measures and budgeting annual trauma-informed care training for new and existing staff to sustain changes in culture. Use of the ProQOL and STSS is beneficial for monitoring staff well-being; however, a tool like the TICOMETER, a measure created to assess the degree of trauma-informed care implementation (Bassuk, Unick, Paquette, & Richard, 2016) may be appropriate to evaluate the Toolkit’s impact.

Conclusion

While the Toolkit training had a positive benefit, the ProQOL and STSS tools did not measure the intended practice change. Moreover, the need for trauma-informed care practices was apparent to the CMO administration and leadership team. The care managers reported increased awareness of trauma in the families with whom they worked and satisfaction with their participation in the workgroups. The supervisors and care managers identified gaps in the previous practices, especially around addressing the parent’s history of trauma, and initiated changes in practice to address the parent’s trauma, which was a positive and much needed change. The need to partner with providers outside of the Children’s System of Care was noted, with the Justice and Education systems being priorities, and outreach is underway.
References


j.cpr.2010.09.004

37. doi:10.1606/1044-3894.4257

(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 Preventive Medicine, 14*(4), 245–258. doi:10.1016/S0749-
3797(98)00017-8

in Veterans Health Administration mental health providers in posttraumatic stress clinics.
*Psychological Services, 11*(1), 50–59. doi:10.1037/a0035643.7

Goldman-Fraser, J., Griffin, J. L., Barto, B. L., Lo, C., Wenz-Gross, M., Spinazzola, J., . . .
Bartlett, J. D. (2014). Implementation of a workforce initiative to build trauma-informed
child welfare practice and services: Findings from the Massachusetts Child Trauma
j.childyouth.201406.016.


Health/Lippincott Williams & Wilkins.


### Appendix A

#### Evaluation Table of Studies

<table>
<thead>
<tr>
<th>Author, Year</th>
<th>Theory Base</th>
<th>Design &amp; Method</th>
<th>Number, Attrition</th>
<th>Independ. &amp; Dep. Variables</th>
<th>Measurement Scales</th>
<th>Data Analysis</th>
<th>Findings Limitations</th>
<th>Levels/Evidence Hierarchy &amp; Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bride &amp; Jones, 2007</td>
<td>PTSD and ACE in CWW</td>
<td>Exploratory Web-based survey data collection three points in time</td>
<td>307</td>
<td>STS/CF-related to case load, peer support, and supervisory culture</td>
<td>DIQ 27 item, STSS 3 scales, 17 items, POCQ-SW</td>
<td>ANOVA</td>
<td>Likely type I error; the lower STS levels CWW reported were correlated with stronger supervisor support</td>
<td>Level VI</td>
</tr>
<tr>
<td>Conrad &amp; Kellar-Guenther, 2006</td>
<td>Compassion fatigue (CF) and compassion satisfaction (CS)</td>
<td>Exploratory study Colorado CWW and training intervention</td>
<td>363 child welfare staff</td>
<td>Comparison of compassion fatigue and compassion satisfaction</td>
<td>Used tool, Figley &amp; Stamm, convenience sample, self-selected</td>
<td>Paired t tests comparing rate of Compassion Fatigue (CF) among those with high Compassion Satisfaction (CS)</td>
<td>50% showed compassion fatigue versus 70% showed CS; CS was associated with decreased CF</td>
<td>Level VI</td>
</tr>
<tr>
<td>Esaki &amp; Larkin, 2011</td>
<td>ACE score &amp; VT in child welfare staff</td>
<td>Exploratory study survey –child welfare staff</td>
<td>360 were surveyed; 94 responded</td>
<td>ACE exposure relationship to vicarious trauma pre-existing exposure trauma, ACE scale</td>
<td>ACE scale</td>
<td>Suggests need for supportive organizational cultures and awareness</td>
<td>Mean ACE scale 2.0, sample small, self-selected, may be biased sample</td>
<td>Level III</td>
</tr>
<tr>
<td>Author, Year</td>
<td>Theory Base</td>
<td>Design &amp; Method</td>
<td>Number, Attrition</td>
<td>Indep. &amp; Dep. Variables</td>
<td>Measurement Scales</td>
<td>Data Analysis</td>
<td>Findings Limitations</td>
<td>Levels/Evidence Hierarchy &amp; Rating</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------------</td>
<td>-----------------</td>
<td>-------------------</td>
<td>--------------------------------------------------------</td>
<td>-------------------------------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>Elwood, Mott, Lohr, &amp; Galovski, 2010</td>
<td>STS in trauma clinicians</td>
<td>ROL</td>
<td>40</td>
<td>Exposure to material trauma and STS, severity, prevalence, personal trauma history, impairment, and course of STS</td>
<td></td>
<td></td>
<td>Increased STS with less experienced trauma clinicians</td>
<td>Level I</td>
</tr>
<tr>
<td>Garcia et al., 2014</td>
<td>Burnout in clinicians working with veterans, national</td>
<td>Preliminary exploratory study, national survey</td>
<td>138</td>
<td>Burnout, demographics, and negative workplace factors</td>
<td>Maslach Burnout Inventory - GS PTSD exhaustion, cynicism, and ineffectiveness</td>
<td>Descriptive statistics, Linear regression model, ANOVA</td>
<td>Workplace characteristics were significantly assoc. with BO rate, intent to leave, and absenteeism</td>
<td>Level VI</td>
</tr>
<tr>
<td>Newell &amp; MacNeil, 2010</td>
<td>STS, CF, VT burnout, and self-care staff training</td>
<td>ROL</td>
<td>NA</td>
<td>Self-care and staff training will impact VT, STS, CF BO</td>
<td>Maslach Burnout inventory, ProQOL</td>
<td>Studies cited</td>
<td>Significant problem of STS, VT among crisis workers</td>
<td>Level I</td>
</tr>
<tr>
<td>Morse et al., 2012</td>
<td>Burnout multi-factor analysis</td>
<td>ROL</td>
<td>8 studies</td>
<td>Occupational setting and mental health impact</td>
<td>Cross sample of levels of evidence</td>
<td>Review of findings</td>
<td>Nurses and mental health staff in psychiatric settings</td>
<td>Level I</td>
</tr>
<tr>
<td>Author, Year</td>
<td>Theory Base</td>
<td>Design &amp; Method</td>
<td>Number, Attrition</td>
<td>Indep. &amp; Dep. Variables</td>
<td>Measurement Scales</td>
<td>Data Analysis</td>
<td>Findings Limitations</td>
<td>Levels/Evidence Hierarchy &amp; Rating</td>
</tr>
<tr>
<td>--------------------</td>
<td>----------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>-------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Regehr, Leslie, Howe, &amp; Chau, 2000</td>
<td>Critical incident exposure, PTSD, and worker judgment of child risk</td>
<td>Exploratory study of association of PTSD symptoms</td>
<td>175 Canadian child welfare workers</td>
<td>Two interviews and self-reported survey for presence of STS in staff serving children and youth and factors contributing to STS - workload</td>
<td>Impact of events scale</td>
<td>All - Mean = 29.5, SW mean = 34 PTSD threshold 26</td>
<td>82% reported job-related traumatic experience, 70% reported STS due to job, critical events influenced negative assessment of child risk of abuse</td>
<td>Level VI</td>
</tr>
<tr>
<td>Sprang, Craig, &amp; Clark, 2011</td>
<td>Trauma</td>
<td>Exploratory study, comparison across SW prof. groups, online survey tool</td>
<td>669</td>
<td>CF and burnout; descriptive predictors of STS; factors of gender, age, race, job type, religious beliefs; comparison of STS in occupations</td>
<td>STSS, ProQOL, CF scale</td>
<td>ANOVA bivariate and multivariate analysis, t tests. CF was sign. correlated (p &lt; .001) with burnout (r = .66)</td>
<td>Child welfare workers had more CF than other professionals</td>
<td>Level VI</td>
</tr>
<tr>
<td>Van Hook et al., 2008</td>
<td>STS in child welfare workers</td>
<td>Exploratory study, 3 organizations participated in survey</td>
<td>182 child welfare workers</td>
<td>Analysis of CF, BO STS in CWW, and gender, age, experience, role</td>
<td>ProQOL, CF, STSS, burnout</td>
<td>Descriptive inferential statistics, t tests/ ANOVA</td>
<td>STS risk in young women with major trauma, case managers</td>
<td>More experienced worker had less STS (p.08) Level IV</td>
</tr>
<tr>
<td>Author, Year</td>
<td>Theory Base</td>
<td>Design &amp; Method</td>
<td>Number, Attrition</td>
<td>Indep. &amp; Dep. Variables</td>
<td>Measurement Scales</td>
<td>Data Analysis</td>
<td>Findings Limitations</td>
<td>Levels/Evidence Hierarchy &amp; Rating</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------------------------------------</td>
<td>----------------------------------------</td>
<td>-------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>Williams &amp; Glisson, 2013</td>
<td>Negative impact of turnover on youth outcomes</td>
<td>Exploratory study, analysis of turnover rates and youth outcomes</td>
<td>NSCAW II survey, 2,346 youth, 73 agencies, 1,544 SW</td>
<td>How does turnover relate to youth outcomes and impact of organizational culture and turnover?</td>
<td>Organ. Social Context Scale (OSC), Child Behavior checklist</td>
<td>Hierarchical linear model analysis</td>
<td>Youth outcomes improved with less turnover, more proficient organizational cultures had best youth outcomes</td>
<td>Level IV</td>
</tr>
<tr>
<td>Felitti et al. (1998)</td>
<td>Adverse Childhood Events</td>
<td>Comparison ACE survey to medical status</td>
<td>13,494 sent survey, 9,508 used</td>
<td>ACE survey, medical status, Behavior Risk Factor Surveys, National Health Nutrition Examination (3rd edition)</td>
<td>Survey tool, standardized medical assessment</td>
<td>Logistic regression</td>
<td>Confidence interval 95% and OR 1.0-2.4</td>
<td>Level VI</td>
</tr>
<tr>
<td>Zlotnik et al., 2005</td>
<td>Turnover, influencing factors and public CWW</td>
<td>ROL 1974 - 2004</td>
<td>154 studies, 30 years</td>
<td>Retention or turnover = dependent variable</td>
<td>Organization and personal factors</td>
<td>Bivariate and multivariate analysis</td>
<td>30-year range for sample used</td>
<td>Level VI</td>
</tr>
<tr>
<td>Goldman-Fraser, et al., 2014</td>
<td>Trauma-informed child welfare practice and services</td>
<td>Multi-system improvement effort, MA child welfare workers</td>
<td>29 districts</td>
<td>Practice change initiative to increase CWW interventions related to child trauma – multi-year initiative</td>
<td>Satisfaction scales – workers and clients, child outcomes and costs</td>
<td>Preliminary observations and anecdotal feedback</td>
<td>NA, financial obstacles, had 16% turnover in participating agencies</td>
<td>Demonstration project</td>
</tr>
</tbody>
</table>
Appendix B

Secondary Traumatic Stress Scale (STSS)

The following is a list of statements made by persons who have been impacted by their work with traumatized patients. Read each statement, and then indicate how frequently the statement was true for you in the past 7 days by circling the corresponding number next to the statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>never</th>
<th>rarely</th>
<th>occasionally</th>
<th>often</th>
<th>very often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I felt emotionally numb.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. My heart started pounding when I thought about my work with patients.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. It seemed as if I was reliving the trauma(s) experienced by my patient(s).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I had trouble sleeping.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I felt discouraged about the future.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Reminders of my work with patients upset me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I had little interest in being around others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I felt jumpy.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I was less active than usual.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I thought about my work with patients when I didn’t intend to.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I had trouble concentrating.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I avoided people, places, or things that reminded me of my work with patients.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I had disturbing dreams about my work with patients.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. I wanted to avoid working with some patients.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. I was easily annoyed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. I expected something bad to happen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I noticed gaps in my memory about patient sessions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Bride et al., 2004)
Appendix C

Professional Quality of Life Scale (ProQOL)

Professional Quality of Life Scale (ProQOL)

Compassion Satisfaction and Compassion Fatigue
(ProQOL) Version 5 (2009)

When you [help] people you have direct contact with their lives. As you may have found, your compassion for those you [help] can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a [helper]. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the last 30 days.

1=Never 2=Rarely 3=Sometimes 4=Often 5=Very Often

1. I am happy.
2. I am preoccupied with more than one person I [help].
3. I get satisfaction from being able to [help] people.
4. I feel connected to others.
5. I jump or am startled by unexpected sounds.
6. I feel invigorated after working with those I [help].
7. I find it difficult to separate my personal life from my life as a [helper].
8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I [help].
9. I think that I might have been affected by the traumatic stress of those I [help].
10. I feel trapped by my job as a [helper].
11. Because of my [helping], I have felt "on edge" about various things.
12. I like my work as a [helper].
13. I feel depressed because of the traumatic experiences of the people I [help].
14. I feel as though I am experiencing the trauma of someone I have [helped].
15. I have beliefs that sustain me.
16. I am pleased with how I am able to keep up with [helping] techniques and protocols.
17. I am the person I always wanted to be.
18. My work makes me feel satisfied.
19. I feel worn out because of my work as a [helper].
20. I have happy thoughts and feelings about those I [help] and how I could help them.
22. I believe I can make a difference through my work.
23. I avoid certain activities or situations because they remind me of frightening experiences of the people I [help].
24. I am proud of what I can do to [help].
25. As a result of my [helping], I have intrusive, frightening thoughts.
26. I feel "bogged down" by the system.
27. I have thoughts that I am a "success" as a [helper].
28. I can't recall important parts of my work with trauma victims.
29. I am a very caring person.
30. I am happy that I chose to do this work.

http://www.lsu.edu/~bhstamm or www.proqol.org. This test may be freely copied as long as (a) author is credited, (b) no changes are made, and (c) it is not sold.
Appendix D

Informed Consent Form

Saint Peter's University
Department of Nursing

INFORMED CONSENT FORM
FOR PARTICIPATION IN A RESEARCH PROJECT

PROJECT TITLE: The impact of trauma-informed care on child welfare workers and staff turnover in a care management organization.

PRINCIPAL INVESTIGATOR: Diane Silbernagel

MENTOR: Dr. Valera Hascup

SPU SPONSOR: NA

INTRODUCTION
You are invited to consider participating in this research project. Please take as much time as you need to make your decision. Feel free to discuss your decision with whomever you wish, but remember that the decision to participate, or not to participate, is yours. If you decide to participate, please sign and date where indicated at the end of this form.

PURPOSE
The purpose of this research is to implement the evidence-based practices from the Child Welfare System Trauma Training Toolkit and change the practices at the Care Management Organization to trauma-informed practices. In addition, this study will evaluate the impact of trauma-informed care on staff self-reports of secondary traumatic stress, compassion fatigue, burnout, and compassion satisfaction as well as on turnover rates. The information collected in this study may benefit others in the future by helping to identify practices to reduce secondary traumatic stress in child welfare systems of care.

Secondary traumatic stress, compassion fatigue and burnout are occupational hazards to child welfare workers. Preventing STSS, compassion fatigue and burnout will improve employee retention and the quality of services provided to children served by the Care Management Organization. The research will be looking at measures of participants' compassion fatigue, burnout and secondary traumatic stress.
PROJECT PLAN
You are being asked to take part in this research because you are an employee of Circle of Care who provides care management. About 65 subjects will take part in this research. There are two parts to the project; the first part is 2 days of training and the second part is your participation in a workgroup over an eight week period.

If you decide to participate in the research, you will be asked to complete two survey tools on two occasions.

Participation in the survey process is voluntary. Your decision whether or not to participate will not affect your future relationship with the organization, Circle of Care. If you decide to participate, you are free to stop at any time.

You may also skip questions on the survey if you don’t want to answer them or you may choose not to return the survey. There will be no repercussions if you choose not to participate in the survey tools.

These survey tools are the Professional Quality of Life scale known as the ProQOL and the Secondary Traumatic Stress Scale (STSS). The STSS is a 17 item self-report tool that asks each participant to indicate how frequently each item was true for them in the past 7 days using a 5 point Likert type scale response from 0 (never) to 4 (very often). The ProQOL screening tool is a 30 item survey that measures responses of secondary traumatic stress, compassion fatigue, compassion satisfaction and burnout in the past 30 days. Participants are asked to indicate how frequently the experience affects them on a scale of 1 (never) to 5 (very often).

The survey tools may serve as a traumatic reminder or trigger of a previous trauma that you may have experienced. You may feel emotional distress from answering the survey tool questions. It is possible, but unlikely that this research could cause harm if you have a strong emotional reaction to the trauma topic or from having to answer the survey tool questions. Any discomfort to you or inconvenience is expected to be minimal (anxiety, stress, memory of previous trauma or adverse childhood experience) and it is not expected to be greater than anything you encounter in everyday life.

Survey data is collected using paper and pen forms. Confidentiality will be maintained by the researcher. The first survey occasion will be during the Trauma-informed care training days and the second occasion will be 8 weeks later. You will be given a paper copy of the two survey tools and asked to answer each item based upon your experiences or feelings selecting a response such as never (0) up to very often (5).

The survey tools will be administered for the first time on October 7 and the second time on November 28 at Circle of Care offices in the conference room. Each session may take up to 30 minutes. Participants may stop at any time that they feel distressed. In the event that the surveys trigger a traumatic memory, participants may consult with Ms. Cynthia Heller, LCSW on-site (973 942 4588 ext. 103) or via email at cheller@cocuemo.org. In addition you will be given direct contact information for the confidential Employee Assistance Program provided by Circle
of Care. If you are aware that you are at risk for a traumatic trigger, you may choose to opt out of the survey component of the research project.

All survey forms will be completed anonymously. No personal identifying information will be included on the survey forms. You will be assigned an ID number and only the researcher will have access to a corresponding roster of names to the ID numbers. This roster will be protected as confidential information at all times.

The project activities will take place at the Circle of Care offices. The training activities will take two days from 9am to 4:30pm. There will be two scheduled fifteen minute breaks and a thirty minute lunch break each day. Participants may take a break at any time if needed. The workgroup activities may take up to an hour a week for eight weeks.

You will also be contacted for a voluntary follow-up debriefing for a date in January 2017.

RISKS
There are minimal risks associated with participating in this research. It is anticipated that the risks are no more than that experienced in everyday life and may include the occurrence of traumatic stress related to the triggering of memories of difficult cases or personal prior trauma. The social risk to participants is minimal and no more than experienced in everyday life. The surveys will be completed in a classroom group setting in the Circle of Care conference room.
Each participant will be assigned an ID number and no names will be on the survey tools.
The researcher will try to reduce this risk by preparing participants for the triggers with self-care strategies, enabling access to support on site from the staff clinician and providing confidential access to the Employee Assistance Program.

BENEFITS
If you agree to take part in this research, there will be no direct benefit to you. However, information gathered in this research may benefit others in the future by helping to identify practices to reduce or prevent occupational secondary traumatic stress in child welfare workers.

CONFIDENTIALITY
Every effort will be made to keep any information collected about you confidential. However, it is impossible to guarantee absolute confidentiality in a group setting. You may inadvertently share personal information as a result of a memory being triggered when you complete the survey tools.

In order to keep information about you safe, the survey tools will not have any identifying information as your own. The hard copies will be collected by the researcher and stored off site from Circle of Care in a secured file in a private area in the researcher’s personal office. The information from the survey tools will be transferred to an excel spreadsheet as an aggregate, with no personal identifying information. The data will not be linked directly to a participant. All electronic information that is accessed through a desktop computer will be password protected. Only the researcher and a statistician will have access to the raw data. The Excel spread sheet will be saved to a flash drive that will be in the researcher’s possession at all times. The flash
drive and the Excel spread sheet as well as the paper copies of the survey tools will be destroyed per St. Peter’s University IRB policies 3 years after completion of the project.

POLICIES AND PROCEDURES FOR RESEARCH-RELATED INJURIES
Researchers will make every effort to prevent research-related injuries and illnesses. If you are injured or become ill while you are in the study, you will receive emergency medical care. The costs of this care will be charged to you or to your health insurer. No funds have been made available by Saint Peter’s University or its affiliates, or any government agency, to compensate you for a research-related injury or illness.

YOUR RIGHTS AS A RESEARCH PARTICIPANT
Participation in this research is entirely voluntary. You can choose not to participate at all, or to withdraw at any point. If you decide not to participate, or to withdraw, there will be no penalty or loss of benefits to which you are otherwise entitled, or any effect on your relationship with the researcher, or any other negative consequences.

During the training days you will have two scheduled fifteen minute breaks and a thirty minute lunch break. You may take an un-scheduled break at any time during the training if you need to.

If you decide that you no longer want to take part in this research, you are encouraged to inform the researcher of your decision. The information already obtained through your survey participation will be included in the data analysis and final report for this research.

QUESTIONS OR CONCERNS
If you have questions about this research project, you may contact Diane Silbernagel at 973 800 6096 or silbernageldiane2@gmail.com. You may also contact the researcher’s faculty mentor, Dr. Valera Hascup at 201- 566-2321 or vhascup@saintpeters.edu. If you have any questions about your rights as a research participant, please contact the Saint Peter’s University IRB, Mr. P. Cvek, at 201 761-6137 or pcvek@saintpeters.edu.

If you have a concern that you wish to bring to the administration of Circle of Care, you may contact Mr. Larry Feather, Executive Director on site or the Board President, Ms. Kathy Peragallo at 973 417 0224 (cell) or kperagallo@yahoo.com.

STATEMENT OF PERSON OBTAINING INFORMED CONSENT
I have fully explained this research to the participant. I have discussed the purpose and procedures, the possible risks and benefits, and that participation in this research is completely voluntary. I have invited the participant to ask questions and I have given complete answers to all of the participant’s questions.

__________________________________________   __________________________
Signature of Person Obtaining Informed Consent   Date
STATEMENT OF CONSENT
I understand all of the information in this Consent Form. I have gotten complete answers for all of my questions. I freely and voluntarily agree to participate in this research project. I understand that I can withdraw at any time. My signature also indicates that I am 18 years of age or older and that I have received a copy of this consent form.

Participant Signature ___________________________ Date __________

Printed Name of Participant ___________________________
Once you sign this form, you will receive a copy of it to keep and the researcher will keep another copy.
Appendix E

Statistical Analysis

Table E1

<table>
<thead>
<tr>
<th>Scale reliability for pre intervention data:</th>
<th>Scale reliability for post intervention data:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STSS</strong></td>
<td><strong>STSS</strong></td>
</tr>
<tr>
<td>• Intrusion subscale coefficient alpha (Cronbach’s alpha) = 0.783</td>
<td>• Intrusion subscale coefficient alpha (Cronbach’s alpha) = 0.882</td>
</tr>
<tr>
<td>• Avoidance subscale coefficient alpha = 0.796</td>
<td>• Avoidance subscale coefficient alpha = 0.808</td>
</tr>
<tr>
<td>• Arousal subscale = 0.837</td>
<td>• Arousal subscale = 0.889</td>
</tr>
<tr>
<td>Research has shown that these subscales are reliable with coefficient alphas ranging from 0.83 to 0.89 (Bride, 2007)</td>
<td></td>
</tr>
<tr>
<td><strong>ProQOL</strong></td>
<td><strong>ProQOL</strong></td>
</tr>
<tr>
<td>• Compassion satisfaction coefficient alpha = 0.883</td>
<td>• Compassion satisfaction coefficient alpha = 0.824</td>
</tr>
<tr>
<td>• Burnout coefficient alpha = 0.722</td>
<td>• Burnout coefficient alpha = 0.632</td>
</tr>
<tr>
<td>• Secondary traumatic stress coefficient alpha = 0.866</td>
<td>• Secondary traumatic stress coefficient alpha = 0.872</td>
</tr>
<tr>
<td>Research has shown that these subscales are reliable with coefficient alphas ranging from 0.75 and 0.88 (Stamm, 2010)</td>
<td></td>
</tr>
</tbody>
</table>

Tables E2

<table>
<thead>
<tr>
<th>PREPOST</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of respondent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-intervention</td>
<td>35</td>
<td>29.63</td>
<td>6.093</td>
<td>1.030</td>
</tr>
<tr>
<td>Post-intervention</td>
<td>28</td>
<td>29.07</td>
<td>6.182</td>
<td>1.168</td>
</tr>
<tr>
<td>Years at agency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-intervention</td>
<td>33</td>
<td>2.2085</td>
<td>2.54047</td>
<td>.44224</td>
</tr>
<tr>
<td>Post-intervention</td>
<td>28</td>
<td>1.8004</td>
<td>1.87394</td>
<td>.35414</td>
</tr>
<tr>
<td>Years in child welfare</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-intervention</td>
<td>32</td>
<td>4.5950</td>
<td>4.07111</td>
<td>.71968</td>
</tr>
<tr>
<td>Post-intervention</td>
<td>22</td>
<td>4.1591</td>
<td>2.80894</td>
<td>.59887</td>
</tr>
</tbody>
</table>
### Independent t-tests:

<table>
<thead>
<tr>
<th>Variable</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.358</td>
<td>61</td>
<td>.721</td>
</tr>
<tr>
<td>Years at agency</td>
<td>.703</td>
<td>59</td>
<td>.485</td>
</tr>
<tr>
<td>Years in child welfare</td>
<td>.435</td>
<td>52</td>
<td>.665</td>
</tr>
</tbody>
</table>

### Chi Square

<table>
<thead>
<tr>
<th>Variable</th>
<th>Chi Square</th>
<th>Degrees of Freedom</th>
<th>Spearman p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>$X^2 = 1.623$</td>
<td>df = 1</td>
<td>$p = .203$</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>$X^2 = 1.695$</td>
<td>df = 3</td>
<td>$p = .638$</td>
</tr>
<tr>
<td>Supervisor</td>
<td>$X^2 = .024$</td>
<td>df = 1</td>
<td>$p = .876$</td>
</tr>
<tr>
<td>Direct Care Worker</td>
<td>$X^2 = .053$</td>
<td>df = 1</td>
<td>$p = .818$</td>
</tr>
</tbody>
</table>

### Tables E3

<table>
<thead>
<tr>
<th>STSS</th>
<th>PRE POST</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>intrude</td>
<td>Pre-intervention</td>
<td>31</td>
<td>8.5806</td>
<td>2.65549</td>
<td>.47694</td>
</tr>
<tr>
<td></td>
<td>Post-intervention</td>
<td>31</td>
<td>9.0323</td>
<td>3.49746</td>
<td>.62816</td>
</tr>
<tr>
<td>avoid</td>
<td>Pre-intervention</td>
<td>31</td>
<td>11.6774</td>
<td>4.18240</td>
<td>.75118</td>
</tr>
<tr>
<td></td>
<td>Post-intervention</td>
<td>30</td>
<td>11.2667</td>
<td>3.86793</td>
<td>.70619</td>
</tr>
<tr>
<td>arousal</td>
<td>Pre-intervention</td>
<td>31</td>
<td>9.0645</td>
<td>3.65089</td>
<td>.65572</td>
</tr>
<tr>
<td></td>
<td>Post-intervention</td>
<td>32</td>
<td>9.0000</td>
<td>3.77599</td>
<td>.66751</td>
</tr>
<tr>
<td>TOTSTRESS</td>
<td>Pre-intervention</td>
<td>30</td>
<td>28.8333</td>
<td>9.32584</td>
<td>1.70266</td>
</tr>
<tr>
<td></td>
<td>Post-intervention</td>
<td>29</td>
<td>29.1724</td>
<td>10.58661</td>
<td>1.96588</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>intrude</td>
<td>-.573</td>
<td>60</td>
<td>.569</td>
</tr>
<tr>
<td>avoid</td>
<td>.398</td>
<td>59</td>
<td>.692</td>
</tr>
<tr>
<td>arousal</td>
<td>.069</td>
<td>61</td>
<td>.945</td>
</tr>
<tr>
<td>total stress</td>
<td>-.131</td>
<td>57</td>
<td>.897</td>
</tr>
<tr>
<td>ProQOL</td>
<td>PRE POST</td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
<td>-----</td>
<td>-------</td>
</tr>
<tr>
<td>CS</td>
<td>Pre-intervention</td>
<td>37</td>
<td>39.3243</td>
</tr>
<tr>
<td></td>
<td>Post-intervention</td>
<td>32</td>
<td>37.8438</td>
</tr>
<tr>
<td>BO</td>
<td>Pre-intervention</td>
<td>37</td>
<td>21.4054</td>
</tr>
<tr>
<td></td>
<td>Post-intervention</td>
<td>32</td>
<td>22.3125</td>
</tr>
<tr>
<td>STS</td>
<td>Pre-intervention</td>
<td>37</td>
<td>21.0811</td>
</tr>
<tr>
<td></td>
<td>Post-intervention</td>
<td>32</td>
<td>22.2500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>1.146</td>
<td>67</td>
<td>.256</td>
</tr>
<tr>
<td>BO</td>
<td>-.742</td>
<td>67</td>
<td>.461</td>
</tr>
<tr>
<td>STS</td>
<td>-.718</td>
<td>67</td>
<td>.475</td>
</tr>
</tbody>
</table>

Table E4

<table>
<thead>
<tr>
<th></th>
<th>CS</th>
<th>BO</th>
<th>STS</th>
<th>intrude</th>
<th>avoid</th>
<th>arousal</th>
<th>tot stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>-.651**</td>
<td>-.401*</td>
<td>-.222</td>
<td>-.427*</td>
<td>-.286</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.014</td>
<td>.231</td>
<td>.017</td>
<td>.119</td>
<td>.079</td>
</tr>
<tr>
<td>N</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>BO</td>
<td>Pearson Correlation</td>
<td>-.651**</td>
<td>1</td>
<td>.791**</td>
<td>.625**</td>
<td>.635**</td>
<td>.645**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>STS</td>
<td>Pearson Correlation</td>
<td>-.401*</td>
<td>.791**</td>
<td>1</td>
<td>.781**</td>
<td>.617**</td>
<td>.674**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.014</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>intrude</td>
<td>Pearson Correlation</td>
<td>-.222</td>
<td>.625**</td>
<td>.781**</td>
<td>1</td>
<td>.687**</td>
<td>.737**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.231</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>avoid</td>
<td>Pearson Correlation</td>
<td>-.427*</td>
<td>.635**</td>
<td>.617**</td>
<td>.687**</td>
<td>1</td>
<td>.779**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.017</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>arousal</td>
<td>Pearson Correlation</td>
<td>-.286</td>
<td>.645**</td>
<td>.674**</td>
<td>.737**</td>
<td>.779**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.119</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>30</td>
<td>30</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>Tot stress Pearson Correlation</td>
<td>-.326</td>
<td>.677**</td>
<td>.745**</td>
<td>.862**</td>
<td>.922**</td>
<td>.931**</td>
<td>1</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>---</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.079</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Each of the subscales from the instruments is independent of each other, with Pearson’s $r$ ranging from -0.401 to 0.791 for significant relationships.

**Figure E1**

![STS Data](image_url)