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Organizational Support for Critical Incident Wellness and Crime Scene Investigators' Perceived Effectiveness

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Walden University
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Abstract

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by

Leggie L. Boone

MS, National University, 2006

BS, Frostburg State University, 1990

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

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Abstract

Law enforcement agencies are frequently studied for officer wellness, yet research is limited in the influence of organizational support for the psychological wellness of crime scene investigators exposed to tragic scenes. The purpose of this quantitative study was to examine the perceptions of job performance effectiveness of crime scene investigators based on organizational support through the provision of stress management resources. The theoretical framework of organizational support theory and management theory formed the basis of the investigation into the contributing elements of job performance. Data were collected through surveys from 92 crime scene investigators, of whom 77 were civilians and 15 were sworn, primarily representing Florida law enforcement agencies. Multiple regression analyses assessed the relationships between the variables of perceived organizational support, stress management training, trauma exposure, tenure, and education to determine factors influencing perceived job effectiveness. The regression analysis results indicated that tenure was a statistically significant determinant of perceived job effectiveness ($p = .036$) among the predictor variables. The results were consistent with prior explorations of the influential nature of perceived organizational support and demographic characteristics as predictors of job effectiveness. The statistical model applied was appropriate for the theoretical framework examined. Implications for positive social change include recommendations to policy makers to increase resources to law enforcement agencies for the wellness of crime scene investigators and the establishment of a critical incident protocol that, if provided as a preventive measure, could impact public safety and perceptions of organizational support.

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Dedication

This dissertation is dedicated to my family for the unwavering love and support they gave me throughout this journey. To my mother, Leggie Lenora Moore, who kept me together and always knew when I needed prayer and encouragement. As my dearest friend and my travel-as-punishment passenger, I truly appreciate you and love you. To my daughter, Leggie El'ana Boone, I pray that I am the example you need to remind you that all things are possible through faith. I'm proud of you as I see your growth and maturity developing before my eyes. (Yes, the three of us are named Leggie.) To my brother, Ben M. Moore, who reminds me more of our dad with each passing year, I thank you for listening and for being present for me whenever I needed you. And, to my dad, Ben F. Moore, I am so grateful for the time we had with you. I'm glad to be even just a little bit like you. Lastly, to the special someone who comforted, pushed, and mentored me, and acted as my sounding board, motivator, and resource, thank you for loving me. I appreciate all that each of you did to keep me inspired to accomplish my goals and to stay positive.

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Chapter 1: Introduction to the Study

Introduction

During the investigation of crimes, forensic services personnel are regularly exposed to hazardous conditions, traumatic scenes, or critical events. Crime scene investigators (CSIs) are forensic services professional who act as a second responder by arriving at crime scenes to assist first responders who are primarily law enforcement officers. The terms *critical incident* and *traumatic event* have been used interchangeably in first responder literature to refer to an event that may occur in the home, community, or workplace that may cause physical injury or psychological stress, potentially triggering an emotional response (Employee Assistance Program, 2017; Gumani, Fourie, & Blanche, 2013; Leone & Keel, 2016). In this study, *critical incident* is used to denote any traumatic situation experienced or attended as a component of the job performed by the CSI. Critical incidents have included any suspicious or criminal incidents, accidental or intentional, that have led to injury or fatality of a person or animal. Critical incidents also include exposure to hazardous materials, endangering the CSI. The frequency of critical incidents requiring CSI involvement has opened opportunities for trace factors of stress to be taken from the scenes, stimulating the use of coping strategies to regulate mental and physical well-being. Civilian CSIs are susceptible to vicarious traumatization to the same extent as the sworn law enforcement officer or sworn CSI, depending on trauma exposure frequency, use of available stress management resources, and perceived organizational support.

Florida police agencies have combined the efforts of sworn and civilian personnel and employed over 21,300 employees in 2015 (UCR, 2015). Positions ranged from sworn personnel allowing for a chain of command, detention facility operation, specialized tactical services, training, to community outreach. Civilian personnel have worked in many capacities as support and volunteer staff for each of the sworn aspects of law enforcement, also assuming public interactive roles, such as victim advocacy, parking enforcement, and crime scene investigation. Many law enforcement agencies have identified personnel as CSIs, sworn or civilian, to fulfill the duties of scene documentation and evidence collection at all natures of crime scenes. Each agency has maintained criteria for the certification requirements, education, and training of CSIs specific to budgetary constraints, crime rate demands, and accessibility. Prior researchers have examined the stress experienced by police and CSIs regarding critical incident investigations such as homicides, suicides, rapes, robberies, violent assault, and motor vehicle crashes (Conn & Butterfield, 2013; Gumani et al., 2013; Webster, 2014). Studies of the psychological impact of attending crime scenes have found notable combinations of stressors including the stress of exposure to the critical incident (Conn & Butterfield, 2013). The stress of law enforcement goes beyond the occupational stress of public services and includes shift work, personnel issues, and documentation (Conn & Butterfield, 2013). For CSIs, critical incident exposure is the central focus of the job. CSIs are susceptible to many of the same stresses experienced by sworn law enforcement officers, including internal agency expectations and pressures, shift work, and the details of completing the scene: evidence packaging and submission requirements, reports,

analyses protocol, connections with outside agencies, secondary scenes, autopsies, and court presentation (Leone & Keel, 2016). Case closure is the focus of the detective, but CSIs bring pertinent information regarding the status of evidence examinations and needs for victim standards and elimination evidence. Available resources for well-being following critical incidents are accessible in some law enforcement agencies, yet civilian CSIs' benefits have not been recorded to denote common inclusion, attendance, or awareness of intervention or prevention programs and policies for critical incident stress reduction. The effects of CSIs' frequent exposure to critical incidents have also been absent in the literature.

Perceived stress in relation to the provision of occupational stress reduction and prevention of vicarious traumatization have been examined in multiple occupations, including sworn law enforcement officers (Skogstad et al., 2013; Webster, 2014). Perceived organizational support reflects the employee's impression of organizational effort and responsibility toward employee assistance for work-related needs. The Survey of Perceived Organizational Support has been used in studies of sworn law enforcement officers to examine relationships between job satisfaction, organizational commitment, stress, and perceptions of organizational support (Boateng, 2014; Gillet, Huart, Colonbat, & Fouquereau, 2012). Ludwig, Edgar, and Maguire (2014) noted the absence of studies regarding crime scene examiner (CSE) decision-making and the potential impact of operational stressors, such as administrative demands, shift work, and trauma exposure, on job performance. Few studies have explored perceived organizational support for CSIs exposed to the critical incidents of law enforcement. Exposure to critical incidents may

lead to vicarious traumatization for any occupation, and first responders, trauma therapists, nurses, and social workers have dominated prior studies relating perceived organizational support to work-related traumatization.

Although expected to attend crime scenes of violence and fatalities, CSIs have been overlooked by researchers examining the effects of frequent exposure. Without sufficient coping strategies and access to effective organization-provided stress management resources, job performance can be affected, leading to burnout or attrition (Elntib & Armstrong, 2014; Sollie, Kop, & Euwema, 2017). CSI duties require attentiveness to detail, mental acuity, and resilience, yet if these attributes are suppressed by vicarious traumatization and other occupational stressors, victims are potentially further victimized (Sollie et al., 2017). Leone and Keel (2016) acknowledged crime scene investigation among stressful occupations while exploring the perceived stress related to exposure to multiple critical incidents for CSIs. This study addresses the gap in the literature by examining the perceived effectiveness of CSI job performance, particularly related to organizational support for critical incident stress.

Law enforcement agencies have sought to combat the documented outcomes of trauma exposure and the pressures of public safety experienced by sworn personnel (Grawitch, Ballard, & Erb, 2015). Posttraumatic stress disorder (PTSD), alcohol and drug abuse, domestic violence, and risk-taking behavior are among the known antecedents of unaddressed work-related psychological stress among police (Clark, Distelrath, Vaquera, Winterich, & DeZolt, 2015). The nature of CSI work is based on knowledge of the sciences of multiple disciplines, frequent exposure to many of the same tragedies as first

responders, and resiliency to control emotions to resist vicarious traumatization. Perceived organizational support is a measurable tool used as a predictor and an outcome useful for identifying the degree of employee motivation and for exploring the need for organizational change. Factors, such as fairness, supervisory support, and work conditions, have the potential to influence job performance. In this study, I examined the perceptions of organizational support as a predictor of effectiveness among sworn and civilian CSIs. The organizational support theory contributed to the foundation of perceived organizational support, signifying the responsibility of the law enforcement agency to furnish adequate services for critical incident stress management for all agency employees (Eisenberger, Huntington, Hutchison, & Sowa, 1986).

In order to assess employment status, frequency of exposure, availability, and use of critical incident stress resources, and the influence of organizational support, I distributed a survey electronically to members of the forensic services community who are currently serving or have served as CSIs in Florida law enforcement agencies. Information collected directly from the CSIs was helpful in determining the existence or need for inclusive policies for critical incident wellness. In this chapter, I further explain the problem, purpose of the study, theoretical framework, and nature of the study design. The pertinent terms and variables are defined and assumptions, delimitations, and limitations are discussed. The chapter also includes the significance of the study.

Background

The perceptions of organizational support of law enforcement personnel have been examined to identify influential factors, including exposure to critical incidents and

leadership support (Chopko, Palmieri, & Adams, 2015; Grawitch et al., 2015; Levy-Gigi, Richter-Levin, & Kéri, 2014; Masal & Vogel, 2016; Paton, 2006; Violanti et al., 2007). Prior researchers have shown that sworn law enforcement officers have been adversely impacted psychologically and physiologically by frequent exposure to traumatic events, and interventions taught and applied in training and professional development are more likely to improve the potential for resilience than the absence of interventions (Kula, 2017; Tucker, 2015). CSIs are also exposed to the hazards of biological diseases and chemical contaminants and the mental and physical stresses involved in attending critical incidents. Policies for the promotion of well-being are in place for personnel in multiple law enforcement agencies and include mandated counseling or critical incident stress debriefing attendance based on supervisor recommendations (Tanigoshi, Kontos, & Remley, 2008; Tuckey & Scott, 2014). According to prior research, first responders to critical incidents have demonstrated posttraumatic growth in relation to positive coping strategy application, peer support assistance, and receptiveness to counseling following critical incident presence (Sattler, Boyd, & Kirsch, 2014). Levy-Gigi et al. (2014) examined the psychological costs of frequent exposure to trauma in firefighters and CSI police.

Developing and maintaining a high level of perceived organizational support for civilian law enforcement personnel has been noted as essential to the function of public service (Alderden & Skogan, 2014). For example, civilian dispatchers for emergency services have presented with symptoms of PTSD, critical incident stress, and occupational stress as the duties of the position impact work-life quality (Shakespeare-

Finch, Rees, & Armstrong, 2015). The U.S. Department of Veterans Affairs (2018) produced the *Diagnostic and Statistical Manual-5* Criterion A for PTSD, which included the "indirect exposure to aversive details of the trauma, usually in the course of professional duties," among the potential contributing factors. Forensic lab analysts have reported cumulative stress in relation to work demands and hazards, such as potential exposure, evolving analytical techniques, court processes, and public expectations (Beety, 2015; National Institute of Justice, 2014). Civilian CSIs are susceptible to the combined stressors of frequent exposure to critical incidents, retraumatization through court testimony preparation, and the increased publicity of forensic field malfeasance. Technological advancements of forensic science also have increased organizational pressures for stronger, faster investigative leads. Incompetency and improper evidentiary procedures may have overshadowed positive accolades in forensics, as shared in the 2009 National Academy of Sciences (NAS) report. The impact of the NAS report, Daubert hearings, and the glamorization of forensic fields through television may also have contributed to the stressors facing CSIs (Scanlan, 2015). The limited organizational response to the need for prevention and intervention strategies for critical incident well-being further compounds the stress of the CSI position. This study addresses the absence of research examining the perceptions of organizational support regarding CSI critical incident well-being; CSIs also suffer a lack of recognition as a subculture of civilian law enforcement support.

Prior researchers have found that sworn law enforcement employees have benefitted from applied policies for well-being prior to, during, and following critical

incidents (Clark et al., 2015; Roach, Cartwright, & Sharratt. 2016). In contrast, employees who did not seek, resisted, or avoided the needed emotional and psychological assistance or who used negative coping strategies, such as smoking, alcohol, drugs, and abusive relationships, reported lower perceived organizational support (Clark et al., 2015; Jacobs, Belschak, & Den-Hartog, 2014). Miller, Unruh, Wharton, Liu, and Zhang (2017) examined the limited contribution to law enforcement officer wellness and determined that wellness was directly related to burnout, which impacts interactions with the public and public safety. A law enforcement organization has the responsibility to provide an atmosphere of structure that includes civilian staff exposed to work-related trauma to fulfill the purpose of public service and protection. CSIs, while present at a multitude of traumatic and graphic scenes, are susceptible to burnout and developing maladaptive coping strategies. The potential benefit of including CSIs in critical incident debriefing and the impact of wellness policies on civilian CSIs has not been adequately studied. CSIs serve next to sworn law enforcement staff and may have mentally responded to trauma exposure in similar ways through burnout, negative coping, or resilience. Exploring the perceived effectiveness of civilian CSIs through the provision and use of organizational support for critical incident wellness fills a gap in the literature.

Problem Statement

Civilian law enforcement support staff—particularly dispatchers, transcriptionists, forensic examiners, and CSIs—have often been overlooked by administrative staff, direct leadership, and sworn personnel at scenes when efforts to buffer the impacts of critical incidents are made. Civilian CSIs are frequently exposed to hazards from biological,

environmental, physical, and psychological sources. CSIs, like sworn personnel in prior studies, may have resisted organizational interventions offered due to the stigma of appearing weak or incompetent (Carriere, 2014; Sollie et al., 2017). The unrecognized psychological hazards of crime scene work may lead to exhaustion, cynicism, and vicarious traumatization with the potential for burnout (Holt & Blevins, 2011; McCarty & Skogan, 2013). As crime persists, the frequency of traumatic exposure increases, which may directly impact the development of coping strategies to combat vicarious traumatization among civilian and sworn CSIs. Law enforcement personnel are recommended to submit to psychological review when involved in or directly exposed to critical incidents, such as police-involved shootings or the death of an officer or agency member (Polk County Sherriff's Office, 2017). Civilian CSIs are also present at the same scenes as sworn personnel, but the policies and programs for reducing or preventing critical incident stress are limited in availability or underpromoted for civilian use (Roach et al., 2016). Inadequate resources for well-being in situations where civilian CSIs are at high risk for vicarious traumatization may impact investigations and job performance, thereby affecting public safety. The factors of frequent exposure, rations in crime rates relative to CSI personnel, and insufficient recognition for the need for wellness intervention may impact CSI job performance in law enforcement organizations. Positive perceived organizational support for prevention and intervention mechanisms and the mediating determinants for preventive measures for civilian CSIs have been noted as pertinent to the operation of effective investigative services in law enforcement (Sollie et al., 2017).

The literature revealed elevated levels of critical incident stress for police, firefighters, paramedics, and dispatchers, and it also documented sources of vicarious trauma for nurses, social workers, and trauma therapists (Cohen & Collens, 2012; Kaur, Chodagiri, & Reddi, 2013; Mark & Smith, 2011; Ray, Wong, White, & Heaslip, 2013; Regehr, LeBlanc, Barath, Balch, & Birze, 2013; Shakespeare-Finch et al., 2015). An abundance of studies described the influence of specific factors on law enforcement officers' perceived organizational support, noting psychological demands as an organizational risk factor (Habersaat, Geiger, Abdellaoui, & Wolf, 2015) and examining the importance of the provision of coping resources for greater resilience and retention of personnel (Siu, Cheung, & Lui, 2015). However, there was a gap in the literature regarding perceived organizational support for frequent exposure to trauma for civilian CSIs.

Without organizational support through the benefits of critical incident stress debriefing, imposed counseling, and encouragement for self-care, burnout and attrition has occurred in forensic service units (Lambert & Steinke, 2015; Siu et al., 2015). Tucker (2015) explored perceived organizational support in regard to stress interventions for police, finding an inverse relationship between the two variables. Tuckey and Scott (2014) reported the benefits of group psychological debriefing following potentially traumatic events faced by the emergency services personnel. Jesus, Miguel-Tobal, Rus, Viseu, and Gamboa (2014) determined that stress management techniques were beneficial through multiple sessions for short-term decompression of stress. CSIs, acting as second responders, are susceptible to vicarious traumatization when attending the same

types of events as these other professions, and this may impact how effectively they are able to perform their job.

Purpose of the Study

The purpose of this quantitative study was to assess CSI perceptions of effectiveness in job execution based on perceptions of organizational fairness, support, and work conditions. The exploration of the perceptions of organizational support for factors of employment status, frequency of critical incident exposure, and use of resources for critical incident stress addressed the gap in the current literature. If uneven standards for the treatment and prevention of hazardous psychological exposure existed, evidence of critical incident stress through lowered perceived organizational support, burnout, and attrition will increase for CSIs, both civilian and sworn. Inadequate organizational support ultimately hinders CSIs from effectively performing the duties of the position, impacting public service and safety.

Research Questions and Hypotheses

The intent of this study was to examine CSI perceptions of job effectiveness as a result of organizational support through the provision of stress intervention services as a mechanism to reduce vicarious traumatization. The research questions addressed in this study are as follows:

RQ1: Do organizational support for critical incident wellness, frequency of exposure, and stress management training received influence civilian CSIs' perceptions of job effectiveness?

$H1_0$: Civilian CSI perceptions of effectiveness were not influenced by organizational support for critical incident wellness, frequent exposure to trauma, and training received.

$H1_a$: Civilian CSI perceptions of effectiveness were influenced by organizational support for critical incident wellness, frequent exposure to trauma, and training received.

RQ2: To what extent do the frequency of trauma exposure, length of service, and education influence CSIs' perceptions of job effectiveness?

$H2_0$: Frequency of trauma exposure, length of service, and education did not affect CSI perceptions of job effectiveness.

$H2_a$: Frequency of trauma exposure, length of service, and education did affect CSI perceptions of job effectiveness

I hypothesized that organizational support for critical incident wellness would influence CSIs' perceptions of effectiveness, after controlling for employment status. Additionally, the level of organizational support reported by the CSIs was predicted to be directly related to perceived job effectiveness. I also hypothesized that the demographic facets of trauma exposure, tenure, and education of the CSIs would influence the use of work-based stress management resources.

Theoretical Framework

Organizational support theory, as described by Kurtessis et al. (2015), explains the relationship of reciprocity between an employer and employees. The employer

supplies employment and benefits whereas the employee furnishes labor and commitment to fulfill the services of the organization. Perceived organizational support derives from organizational support theory and expounds on the expectations of the employee based on the benefits supplied by the employer. Boateng (2014) suggested that employee value was recognized through the care and support for well-being offered by the organization. In law enforcement, perceived organizational support (POS) is influenced by multiple factors, including rewards, opportunities for growth, and tenure (Madden, Mathias, & Madden, 2015); supervisor support, internal customer service, and work engagement (Van Gelderen & Bik, 2016); and lack of resources, poor public image, and the absence of emotional support (Boateng, 2014). POS was purportedly linked to organizational responsibility and influenced the outcomes of work-based support mechanisms (Boateng, 2014). Additional information on POS and organizational responsibility are provided in Chapter 2.

Due to the nature of police work, personnel are susceptible to the stressful encounters of tragedy and trauma. Law enforcement agencies individually define the services rendered for members, establishing general orders, protocols, and procedures for varying impactful situations. Training facilities, such as the Legal & Liability Risk Management Institute in Indiana, have been developed to offer steps to integrate early stress intervention programs for law enforcement officers (Legal & Liability Risk Management Institute, 2017). Many law enforcement agencies have offered the confidential services of an employee assistance program (EAP), providing guidance and counsel for personnel and their families in situations of crises. Donnelly, Valentine, and

Oehme (2015) found that officers were unaware of or avoided the benefits of the EAP, even though the program components were shared regularly. Organizational support was presented through the EAP, but fears of breached confidentiality, appearing unfit or weak, and peer disapproval were associated with benefit avoidance (Donnelly et al., 2015). Brookshire (2011) described the stress management program in the military police as ineffective due to limited knowledge in continued care following initial implementation. CSIs were among those in attendance at critical incidents, and civilian CSIs were subject to similar peer disapproval and fears due to commonalities with sworn personnel attending traumatic events.

Some law enforcement agencies also have presented policies regarding psychological wellness for personnel at greater risk for critical incident stress or vicarious traumatization. For example, the Fort Lauderdale Police Department in Florida (2017) established a policy in 2001 that recognized the potential mental health hazards for any employee involved in a traumatic event through organized critical incident stress debriefing (CISD). The Seattle Police Department in Washington outlined a policy for early intervention services as a means of sworn and civilian employee support through mentoring and observation, in addition to a critical incident stress management (CISM) mechanism (O'Toole, 2015). Civilian employees have been included in the written policies, but training, use, and confidence for the effectiveness of EAP, CISD, and early intervention services have not been sufficiently examined. Resistance to seek intervention services is an indication of low perceived organizational support.

Select statements from the education about trauma and health survey, developed and applied by Andersen, Papazoglou, Koskelainen, and Nyman (2015), were included in the survey instrument in this study to identify the use of work-based stress interventions and self-care. Determining the frequency of critical incident exposure and the organizational support given through training in stress management addressed the research question correlating trauma exposure as a potential influence on perceptions of organizational support and effectiveness.

Management theory, with respect to job design, shapes employee perceptions of effectiveness in performance. In 1964, Herzberg theorized that job satisfaction was related to working conditions, salary, and recognition, which collectively promote a sense of purpose and effectiveness (Kula & Guler, 2014). Organizational support, typically controlled by direct supervision, influences employee motivation (Wrighton, 2005). In law enforcement organizational culture, the workload and nature of the job are associated with human behaviors, traumatic situations, and overall public safety. Leadership is tasked with not only promoting public safety, but also with promoting internal members' positive health, instilling pride in service, and offering resources to maintain a work-life balance. In police culture, CSIs should be included in efforts to sustain clarity of mind for successful investigative outcomes.

Nature of the Study

A quantitative approach was applied to this nonexperimental study. Prior research was limited in demonstrating an existing model for determining the level of influence that access to stress management resources and organizational support of CSIs has on job

performance effectiveness. The variables of employment status, length of CSI service, frequency of exposure to traumatic events, education, and gender were recorded as potential contributors in shaping perceived organizational support. The analysis of the suspected influences on CSI perceived organizational support contribute to job performance effectiveness factors, which were rated by participants. Perceived organizational support and frequency of exposure act as predictors for the use of available resources. A survey for self-reporting perceptions of organizational support and agency incorporation of critical incident stress management training was distributed to CSIs. The quantitative questionnaire method has been applied in studies of law enforcement personnel, allowing for greater representative samples of the subpopulations surveyed (Ghasemizad & Mohammadkhani, 2013; Miller et al., 2017). To examine factors associated with CSIs' perceptions of organizational support, an electronically submitted survey was most appropriate for distribution, collection, and confidentiality of responses for this study. The application of statistical methods of analyses of a purposive sample allowed for generalization of findings within the population (Frankfort-Nachmias, Nachmias & DeWaard, 2015).

The survey instrument integrated select questions from the survey of perceived organizational support (SPOS). The SPOS was developed by Eisenberg, Huntington, Hutchison, and Sowa (1986) when researching POS in educators and the survey has been used in studies across several disciplines: (a) employer-supervisor relations (Neves & Eisenberger, 2014); (b) university staff (Mohamed & Ali, 2015); and (c) policing (Jacobs et al., 2014; Miller et al., 2017). The SPOS has been applied in studies of police

personnel to determine factors contributing to POS, including vicarious traumatization (Jacobs et al., 2014; Manning-Jones, De Terte, & Stephens, 2016; Miller et al., 2017; Shakespeare-Finch et al., 2015). To determine CSIs' perceptions of organizational support, the SPOS using a scaled rating for the level of support was applied for this study, in addition to the effectiveness and demographic questions. The measures of organizational support addressed the research questions evaluating the association between the availability of agency stress management resources, perceived effectiveness, and perceived organizational support, which were mediated by employment status.

I distributed the survey electronically through the Florida Division of the International Association for Identification (FDIAI) member directory. Voluntary confidential participant responses were directly inputted into a data set for Statistical Package for the Social Sciences (SPSS) analyses. Regression models were estimated by entering predictor variables: (a) employment status, (b) length of service as a CSI, (c) frequency of critical incident attendance, (d) the quantity of training, (e) education, and (f) gender to explore correlations to perceived organizational support. Employment status and perceived organizational support were analyzed for influence on the CSI rating of the effectiveness of job performance. Frequency of critical incident exposure in conjunction with the availability of resources and perceived organizational support predicted the use of job effectiveness.

Definitions of Terms

Key terminology and precepts essential to interpreting the factors examined in the current study are defined in this section.

Crime scene investigator (*CSI)*: The second responder assigned to crime scene processing for evidence documentation, preservation, and collection to assist in investigations. The International Crime Scene Investigators Association (2016) found that varying agencies refer to CSIs using different titles for the position, including (a) crime scene technician, (b) criminalistics officer, (c) forensic investigator, (d) scene of crimes officer, and (e) evidence technician. Additional titles referencing the work of CSIs in the literature cited included *forensic science investigators* (Yoo, Cho, Cha, & Boo, 2013) and *crime scene examiner* (Kelty & Gordon, 2015). In this study, the term *CSI* represents any civilian or sworn law enforcement agency member fulfilling the duties of crime and critical incident scene documentation, evidence preservation, and collection. The participating CSIs worked in a sworn or civilian capacity for a local, county, state, or federal organization and may have been of assistance outside of the home agency jurisdiction when needed based on agency-specific protocol.

Civilianization: The move of military and paramilitary organizations toward allowing civilian citizens to work in positions that were formerly military or sworn within the organization. In law enforcement, civilianization of support and nonhazardous positions began in the 1950s as a means of reducing costs and with the goal of providing greater services (Alderden & Skogan, 2014).

Critical incidents/*traumatic event*s: Occur in the workplace, home, or community and reflect distressing actions such as death, violence, accidents, and natural disasters; they may have rooted in the minds of those directly or possibly indirectly involved. First responders and others—including emergency dispatchers, emergency room nurses and

doctors, police transcriptionists, chaplains, and CSIs—have frequently been exposed to critical incidents, increasing susceptibility to traumatic stress (Tuckey & Scott, 2014).

Critical incident stress management/critical incident stress debriefing (*CISM/CISD):* Organized peer intervention mechanisms developed to address a group of first responders in the debriefing and follow-up sessions after a traumatic event, with the goal of reducing the potential for acute stress disorder, PTSD, or engagement in negative coping strategies (Guenthner, 2012; Pack, 2012).

Length of service: In this study, the number of years an individual spent working as a CSI. Length of service in overall CSI career was requested in the survey instrument to establish a basis for potential trauma exposure.

Level of education: In this study, a covariate to the length of service and frequency of exposure and may have impacted the potential for psychologically significant responses to trauma exposure. Boateng (2014) included the level of education as a variable in the study of Ghanaian officers' perceptions of organizational support and overall police effectiveness.

Sworn agency member: Any officer or deputy who has taken the oath of public protection, possessing the legal certification required by a law enforcement organization, and authorized to arrest when necessary. Title 47 (943.085) of the Florida statutes further endows the sworn law enforcement officer with the responsibility of "prevention and detection of crime."

Vicarious traumatization: Introduced by McCann and Pearlman in 1990, a psychological response of chronic symptomatic distress to indirect trauma experienced by

those close to a critical incident (Pack, 2014; Tuckey & Scott, 2014). Can resemble burnout, compassion fatigue, and secondary traumatic stress and occurs in occupations in which interaction with trauma and trauma survivors is a component. Vicarious resilience is a progression through vicarious traumatization that occurs by the development of effective coping strategies (Pack, 2014).

Assumptions

This study assumed that civilian CSIs, as frequent attendees of traumatic events, are at risk for exposure to critical incident stress, which may negatively impact job performance over time. The research survey solicited a range of critical incident exposure over a 12-month period to reflect on opportunities for scene attendance. Many of the studies reviewed indicated that law enforcement officers have included exposure to critical incidents as a cumulative source of occupational stress (Craun, Bourke, Bierie, & Williams, 2014; Ménard & Arter, 2014; Tyagi & Dhar, 2014). Psychological resources available to sworn personnel have been noted as underutilized, which suggests that civilian CSIs also underutilize organizational resources for well-being.

As a smaller unit and subculture within a law enforcement agency, CSIs are expected to attend more scenes of varying nature over a larger area (square mileage) than sworn officers, who are typically assigned to a specific zone or district, which further increases the potential for heightened exposure to critical incidents for CSIs. With the use of forensic services by neighboring jurisdictions, increased frequency of crime scene attendance adds to the critical incident exposure for CSIs. Another assumption of the study was that the duties of CSIs across multiple agencies are similar, applying

commonly used evidence documentation and collection techniques. The use of intervention resources was determined as a dependent variable and may have reflected extraneous variables, including marital status, work history, and personal traumatic experiences.

The limited use of mental health resources was noted as a contributing factor of perceived organizational support in sworn personnel. An assumption of the current study suggests that the perceptions of organizational support of civilian CSIs reflect a minimal need for such resources. The assumption of the need for resources was addressed by inquiring about the agency protocol for stress management resource use and an estimate of training provisions for existing resources was requested. I also assumed that participants responded with honesty, without social desirability bias in efforts to appease superiors or demonstrate higher attitudes toward their organization or to maintain a guise of strength for the position duties. I further assumed that CSIs have fewer positive interactions in their range of public service than sworn personnel do, which may impact perceived organizational support.

Scope and Delimitations

The population explored in this study included civilian and sworn CSIs who have at least 1 year in the position. The length of service was addressed as a covariate to exposure frequency and level of education. CSIs with less than 1 year of experience or with only academic qualifications for the position were less likely to have been present or involved in traumatic scene investigations. Some previous researchers identified gender as a contributing factor for perceived organizational support and to explain differences in

vicarious traumatization (Kelty & Gordon, 2015; Kim, Wells, Vardalis, Johnson, & Lim, 2016; Ménard & Arter, 2014). I also examined differences in gender responses, as gender data were collected for a descriptive statistical perspective of the sample.

The framework of vicarious traumatization, as defined by McCann and Pearlman (1990), was originally theorized as a psychological response triggered by exposure to a graphic or traumatic presentation of material occurring through therapy interactions. Another theory, the constructivist self-development theory (CSDT), also explained by McCann and Pearlman (2010), explored individual experiences inclusive of vicarious traumatization response. For the purposes of this study, CSDT was not considered due to the depth of psychological differences and experiences possible among the participants. The conservation of resources (COR) theory, attributed to Hobfall, relates to employee response to organizational stress linked to perceived organizational support through the gain or loss of resources (Alvaro et al., 2010; Gorgievski & Hobfall, 2008). COR theory reached beyond the range of this study because COR theory examines the totality of objects, conditions and personal skills, and energy expounded in the quest for relief from occupational stress (Alvaro et al., 2010). Personal skills, as associated with CSI length of service, were included as a moderating variable for the frequency of exposure as each impacts perceived organizational support. Crime scene investigation and the expectations of CSIs have been the topic of multiple studies seeking associations with the impact of forensic science on the criminal justice system (Scanlan, 2014) and the stress associated with traumatic exposure (Clark et al., 2015; Yoo et al., 2013). The commonality of CSI

duties, regarding potential exposure to crime scene trauma and organizational stress, suggests generalizability of the findings of this study.

Limitations

The limitations of a study reflect the impact of the study design and methodology for data collection and analyses. The cross-sectional design of this study did not show causation for the responses of perceived organizational support and yet may have posed the option for nonresponse. The advantage of the cross-sectional design allowed a larger portion of the population to be targeted and aided in determining the relationships between perceived organizational support, access to critical incident well-being resources, and employment status as a sworn or civilian CSI.

The Bureau of Justice Statistics (2017) and the FBI Uniform Crime Reports (2017), both federally maintained, state the quantities of civilian and sworn personnel in each state and county, yet the division of positions and ranks are not categorized. No national or state databases of the positions for forensic personnel for law enforcement agencies had been developed (personal communication, Glen Calhoun, IAI president, February 1, 2016). The lack of a known population of CSI personnel presented another limitation for this study, which affected the determination of a sufficient sample size.

Another limitation was the self-reporting survey design. Participants rated POS, frequency of traumatic exposure, and rate effectiveness of job performance based on personal experiences, which were influenced by different standards, knowledge, values, and habits. Self-reporting is subjective and reflective of perceptions, elevating the validity of findings. In addition, electronic survey distribution and convenience for

administration allow for participant anonymity and statistical analysis of geographically dispersed samples.

Significance

The study of the perceptions of organizational support for civilian CSIs is significant for several reasons. Identifying CSI POS for available interventions for exposure to traumatic events addresses the need for policies that include civilian CSIs in critical incident wellness efforts made by law enforcement organizations. To affect organizational policy improvement or installation, the POS and ratings of perceived effectiveness of job performance were considered as tools for the awareness of the hazards of frequent exposure to traumatic events and the potential effects on the well-being of crime scene personnel. The promotion of occupational longevity in a field driven by public service for tragedies requires organizational responsibility for member health (Andersen, Papazoglou, Gustafsberg, Collins, & Arnetz, 2016). Additionally, Kelty and Gordon (2015) noted that the well-being of forensic personnel has the potential to affect the judiciary process due to pressure for credibility and accuracy in analyses and reporting. Inadequately providing sufficient introduction and maintenance of traumatic stress wellness programs demonstrates a limited view of the psychological tolerance of CSIs. I assessed the availability of training and use of resources for CSIs as well as the number of workdays impacted by critical incident stress. Promotion of enhanced internal agency assistance offers the augmentation of resiliency for continued quality public services. This study may impact social change through advocacy for the inclusion of

stress intervention and prevention techniques deemed effective in training and curricula for forensic science programs of study.

Summary

CSIs are vulnerable to the stresses of frequent trauma exposure and susceptible to vicarious traumatization. Although crime scene attendance is a major component of the CSI position, the availability and use of work-based support for critical incident wellness has received limited attention in prior studies (Grawitch et al., 2015; Kelty & Gordon, 2015). The mental health of civilian CSIs frequently exposed to death, violent scenes, and victim abuse is worth supporting through the organizational provision of stress management resources for the protection of employees and for public safety through confidence in job performance. Members of the CSI community were surveyed for their perceptions of organizational support, frequency of trauma exposure, and perceptions of job effectiveness based on organizational motivational factors.

Chapter 2 imparts a review of the literature on perceived organizational support, organizational responsibility for stress intervention in law enforcement, and occupational stress as it relates to trauma scene attendance. Chapter 3 explains the methodology chosen and describes the variables, survey instrument, and data analysis procedures. This chapter includes the assumptions of analyses, threats to validity and reliability, and ethical procedures for participants.

Chapter 2: Literature Review

Introduction

Criminal acts impact the victims and all who interact with the victims and the crime scenes. During the investigation of criminal offenses, CSIs are exposed to hazardous conditions of tragic events as a regular component of their positions. CSIs act as second responders, arriving at crime scenes to assist first responders who are primarily law enforcement officers. The frequency of crimes requiring CSI attendance opens opportunities for the use of organizational strategies to buffer critical incident stress. Police officers and other first responders have often been studied for factors surrounding work-related stress, crisis interventions, and perceived organizational support (Boudoukha, Altintas, Rusinek, Fantini-Hauwel, & Hautekeete, 2013; Chopko et al., 2015; Craun, Bourke, Bierie, & Williams, 2014; Minnie, Goodman, & Wallis, 2015; Yun, Kim, Jung, & Borhanian, 2013). Studies have been conducted to report the impact of occupational stress on digital forensic examiners (Holt & Blevins, 2011), forensic scientists (Holt, Blevins, & Smith, 2017), and on transcriptionists in varying fields (Kiyimba & O'Reilly, 2016). Research on the traumatization of CSIs and the considerations for organizational interventions is limited. Law enforcement agencies often have services available for the benefit of sworn personnel who experience trauma associated with the duties of their position (Donnelly et al., 2015; Vivona, 2014; White & Robinson, 2014). Although the effectiveness of CISM has been studied, the results have been inconsistent and few recent studies have identified alternate work-based resources as beneficial (Brookshire, 2011; Dieltjens, Moonens, Van Praet, De Buck, &

Vandekerckhove, 2014). Civilian CSIs are not commonly included in the preventive efforts toward positive well-being afforded sworn personnel. Civilian CSIs are equally susceptible to critical incident and occupational stress as a result of the frequency of trauma exposure, length of service, and limited availability of resources, in comparison to sworn law enforcement officers.

The purpose of this study was to examine the relationship between POS and the availability of intervention services for civilian CSIs exposed to critical incidents. The awareness and use of organizational policies and work-based resources were also investigated, as they relate to employment status, occurrences of critical incident exposure, level of education, gender, and length of service as a CSI. Determining the occurrences of critical incident exposure as an influence on POS of CSIs demonstrated an understanding of the mental health and training needs of forensic personnel. Cieslak et al. (2014) shared that occupations at high risk for direct and indirect trauma exposure are important to research for the triggers and progression of vicarious traumatization and burnout. Determining the perceived effectiveness of existing stress management resources highlights the need for a more concerted effort for employee wellness. Examining CSIs establishes a template for the inclusion and development of critical incident stress outlets for forensic services personnel's training and professional development.

The literature review covers the following topics: theories of organizational support in relation to occupational stress in varying fields; POS theory in law enforcement studies; studies conducted on populations at high risk for vicarious

traumatization, including sworn and civilian subpopulations in law enforcement positions; the intricacies of CSI training, education, duties, and susceptibility to the hazards of critical incident exposure; studies determining how stress and coping impact law enforcement, forensic personnel, and other high-risk occupations; and the organizational responsibility of intervention and prevention mechanisms for stress management regarding job-related exposure to trauma. This review demonstrates the associations between POS and the importance of the availability of intervention and prevention programs for work-related critical incident stress such as incumbent of CSIs.

Literature Search Strategy

Prior studies regarding the themes of perceived organizational support, organizational responsibility, and critical incident wellness of trauma-exposed occupations have presented findings that included forensic fields. Resources for this literature review were obtained from the following databases: Criminal Justice database, Emerald Insight, National Academies Press, National Science Foundation, Published International Literature on Traumatic Stress, ProQuest Central, SAGE Journal, Science Direct, and SocIndex, available to Walden University students. Several articles were contained in *Policing: An International Journal of Police Strategies & Management* and the *International Journal of Police Science & Management*. Few studies in the *Policing* journal were directly associated with the stressors, duties, or support systems for civilian CSIs. Additional resource information was obtained through the Bureau of Justice Statistics, FBI Uniformed Crime Reports, Florida Department of Law Enforcement, Florida Sheriff's Association, the International Association for Identification, and the

International Crime Scene Investigators Association. Keywords and combinations searched for included: *crime scene investigators, forensic personnel, coping strategies, perceived organizational support, vicarious traumatization, law enforcement officers, first and second responders, secondary traumatic stress, civilianization of police agencies, organizational responsibility, critical incident stress management, workplace stress interventions,* and *effectiveness of stress management*.

Studies examining CSI well-being were limited to the contrast between the glamorization of the position and the reality of coping strategies applied (Huey & Broll, 2015) or the comparison of police stress responses to those of civilian support staff (Kelty & Gordon, 2015; McCarty & Skogan, 2013). Research regarding organizational support for sworn law enforcement personnel identifying exposure to trauma as a contributing factor to stress was sought for this review. Additionally, studies exploring the coping strategies applied by CSIs were also reviewed for this study. Searches included books, textbooks, academic and trade journals, and federal agency statistical reports, ranging in dates as early as 1986 (for seminal works) to 2018. Literature correlating the availability and use of work-based stress intervention tools with the perceived organizational support of CSIs was absent from the databases accessed.

The literature search strategy offered multiple resources to support the awareness of wellness issues within law enforcement organizations. To further clarify the justification of the current study, the theoretical foundations of perceived organizational support and critical incident stress were discussed. A brief history of organizational development as a foundation for perceived organizational support theory, as it relates to

personnel behavior, supplemented the examination of law enforcement agency organization, civilianization, and responsibility. This chapter also expands on prior research of key variables and concepts, including critical incidents and law enforcement personnel, and perceived organizational support in law enforcement. Studies that have explored mechanisms to combat critical incident stress, education in law enforcement, and gender perspectives for stress management in law enforcement were shared. The chapter culminates with a connection between prior studies and the research questions and methodology of the current study.

Theoretical Foundation

Organizational support theory stemmed from the organizational development branch of research and practice. Within organizational development, an organization evolves, fitting an internal culture with the external supply of services, while encompassing societal needs through ongoing acquisition of knowledge as presented in the research of organizational change theory (Ahmed, Balzarova, & Cohen, 2015). As early as 1832, manufacturer Robert Owen conveyed the message that the organization should be observant of its "vital machines" or employees (Shafritz, Ott, & Jang, 2016, p. 12). As the organization grows, the education, training, and skills of the members combine to shape the internal culture, and a level of commitment transpires between the organization and the members. Organizational support theory suggests that employees assume their employer values and cares for them beyond the duties of the positions they fulfill (Kurtessis et al., 2015). POS theory connects commitment—financially and emotionally—to the assumption of value between the organization and the employee

(Eisenberger et al., 1986). The employee expectation of reciprocity of output and commitment for value and benefits—also referenced as social exchange theory—increases or decreases on the basis of POS (Eisenberger et al., 1986; Kurtessis et al., 2015).

Multiple factors influence POS, depending on the nature of the occupation and the organizational culture. Leadership, colleague support, shiftwork, caseload, organizational politics, and health are contributors to employees' levels of POS in law enforcement agencies (Tyagi & Dhar, 2014). In the examination of individual characteristics of employees, Gillet et al. (2013) found dedication, self-determination, and vigor to be related to POS. Van Gelderen and Bik (2016) suggested that interactions with customers and exposure to negative situations during the course of a job inherently impact POS. In the field of law enforcement, the aforementioned factors meshed into occupational stressors. For sworn personnel, training created the foundation of POS through the introduction of the universal policing mission: to serve and protect. The pressures of service and the dangers of protection increase the likelihood of developing coping strategies to combat police stress, also affecting POS. Vuorensyrjä (2014) noted the impact of organizational reform on the perceptions of organizational support and morale for police officers. The action or inaction to affect employee well-being, as a responsibility of the organization, may also influence POS (Madsen, 2000; Kurtessis et al., 2015).

Police stress was noted as a combination of the contributors to POS, compounded by pressures from multiple sources, including family, citizens, media, and political

entities (Conn & Butterfield, 2013). As first responders, police agents are expected to know what to do in the face of tragedy and to be resilient in readiness to respond to the next tragedy (Huey & Ricciardelli, 2015). The added pressures within law enforcement are reflected within POS, which affects the individual, the agency, and ultimately the public being served (Boateng, 2014). Support staff in law enforcement organizations are expected to adhere to the universal policing mission by fulfilling the functions regarding administration; record-keeping; planning; maintaining supplies, equipment, and technology; managing budgetary needs; communicating with the court system; overseeing offender detention; and aiding with investigative components of crimes. Many of the support positions in law enforcement are occupied by nonsworn or civilian personnel (Frazier, 2003; Griffiths, Pollard & Stamatakis, 2015; Leone & Keel, 2016; McCarty & Skogan, 2013). Civilianization within law enforcement stems from the budgetary constraints of public services and the growing needs and urgency in police officer responses to citizen calls (McCarty & Skogan, 2013). Overlap occurs in some of the stresses experienced by civilian and sworn personnel (Kelty & Gordon, 2015; McCarty & Skogan, 2013).

The impact of critical incident stress was also a focus of this study. CSIs are frequently exposed to tragedies of humankind as a common duty of the position. The frequency of exposure depends on the types of crime scenes attended, agency policy for CSI response, and the number of available CSIs in an agency. Each agency maintains its own criteria for hiring and retaining CSIs, including education and certification requirements, as well as proficiency baselines for meeting training expectations

(International Crime Scene Investigators Association, 2017). Identifying the need and selecting the appropriate mechanism for emotional or psychological support are often left to the individual to muster and master (Avraham, Goldblatt, & Yafe, 2014; Grawitch et al., 2015; Joyful Heart, 2016; Loriol, 2016). Researchers have examined the effects of frequent exposure to trauma in the form of tragic death scenes, abused or assaulted persons or animals, and line-of-duty deaths for sworn personnel, paramedics, and other emergency services workers (Avraham et al., 2014; Habersaat et al., 2015; Levy-Gigi et al., 2014; Marchand, Boyer, Nadeau, Beaulieu-Prévost, & Martin, 2015). Little research has explored the impact of such scenes on the CSIs (sworn or civilian) who also attend tragic scenes.

Adderley, Smith, Bond, and Smith (2012) described the physiological changes that occurred in civilian CSIs while performing their normal duties. There were similarities in the degree of stress recorded in the measured heart rates during the execution of normal duties and anticipated increases in heart rate levels when traumatic scenes were attended (Adderley et al., 2012). Due to the differences in duties between civilian CSIs and sworn patrol officers, stress levels have not been comparable, yet there were several comparable factors to consider when studying occupational stress and critical incident stress in crime scene investigation (Adderley et al., 2012).

Service and protection require an oath and a level of authority; therefore, law enforcement agencies typically have more sworn personnel than civilian personnel. For example, the FBI Uniform Crime Report (UCR) of 2012 recorded 23,953 persons working in the city law enforcement agencies of Florida. Civilians accounted for 27.8%

with 6,665 members addressing clerical, business, communications, crime analyses, forensics, and multiple other nonsworn positions (FBI, 2012). Withstanding crime rate variation by location and population, the number of city law enforcement personnel decreased to 21,603 in 2015, with 5,868 (27.2%) as civilian positions (FBI, 2015). The data collected in the law enforcement agency employee recording of the UCR did not reflect the 67 state-bound sheriff's office personnel, tribal, college/university and other inconsistently reporting law enforcement agencies, which may have impacted the overall quantities and percentages of sworn and civilian personnel in Florida. Furthermore, there are over 320 law enforcement agencies in Florida, yet only 10 registered CISM teams have been recorded in the International Critical Incident Stress Foundation roster (ICISF, 2017). CISM, or other first responder support organizations, are not required to register with ICISF to operate, and some CISM teams were listed as responsible for multiple agencies.

Law enforcement agency leaders determined the level of intervention and prevention available for employees susceptible to critical incident stress. Resources of organizational provisions have included EAPs, mandatory or optional Critical Incident Stress Debriefing (CISD), and supervisor and co-worker support (Craun & Bourke, 2015: Sewell, 1994; Tuckey & Scott, 2014). Researchers have abundantly studied sworn responses to trauma and the impacts of various options for social support and self-care (Chopko et al., 2015; Craun & Bourke, 2015; Roach et al., 2016; Skogstad et al., 2013). Few analysts have examined the effectiveness of CISD, EAPs, and other work-based support. Given the common exposure to traumatic crimes scenes and the re-

traumatization through lengthy presence at involved scenes, autopsy attendance, photography of trauma, evidence packaging and analyses, and court preparation, civilian CSIs were as susceptible as sworn personnel to critical incident stress, vicarious traumatization, symptoms of PTSD, desensitization, and burnout (Clark et al., 2015; McCarty & Skogan, 2013; Shoji et al., 2015). Levy-Gigi, Richter-Levin, Okon-Singer, Keri, & Bonanno (2016) determined a potential benefit in frequent exposure to trauma in sworn CSIs. Examiners of the impact of stress within law enforcement personnel primarily discussed and confirmed the significant negative impacts of trauma exposure, however, Levy-Gigi et al. (2016) determined that frequent trauma exposure among sworn CSIs offered a contextual blockage in response to non-work-related situations of varying intensity. A brief history of the perceived organizational support theory validated an understanding of organizational responsibility during traumatic events and the expectations of personnel, particularly in law enforcement.

Foundations of Perceived Organizational Support Theory

In the early- to mid-1900s, organizations hired with the intent of grooming and training personnel for the sole benefit of the organization: greatest productivity (Shafritz et al., 2016). Following experiments and studies influenced by psychologist Hugo Münsterberg, the significance of the employee changed to reflect the flow of dependence. The organization was initially dependent strictly on the output of the employee and the employee was dependent on the organization strictly for wages. Following studies of the mentality of the employees, while performing various tasks, the concept of job satisfaction was raised, as it contributed to productivity (García-Buades, Ramis-Palmer,

& Manassero-Mas, 2015; Mateescu & Chraif, 2015). The 1960s revealed the *human resources theory*, which incorporated the following assumptions: the organizations rely on humans, not the opposite; there is a reciprocal relationship of needs between the employees and organization; any weakness or exploitation on either party in the relationship leads to the destruction of both; and positivity and growth for the employees and the organization improves the relationship between the two (Shafritz et al., 2016).

Other theorists, including Douglas McGregor, Abraham Maslow, and Frederick Herzberg, expanded on the earlier job satisfaction theories regarding career development. Maslow and Herzberg examined satisfaction and motivation, while McGregor studied organizational behavior based on the job as the source of satisfaction (Shafritz et al., 2016). Job satisfaction was directly associated with perceived organizational support. Job satisfaction was also related to stress (Holt & Blevins, 2011, Singh & Nayak, 2015). Occupational stressors included a combination of factors associated with the duties of different positions. Changes in policies, requirements or methods, increases in demands for service, hours, or shifts, and expectations of leadership that exceeded training and skills, were factors that may have triggered occupational stress.

Law enforcement personnel have experienced multiple occupational stressors, which were likely heightened by the urgency of the demands for service. The dangers of protecting the public, pressures of leadership and political entities, shiftwork, crime rates and community issues, frequent exposure to trauma, media representation, limited praise or encouragement, training requirements, in addition to family life, personal goals, and personal values all have impacted the mental strength of the sworn officer (Bell,

Kulkarni, & Dalton, 2003; McCarty & Skogan, 2013). A correlation existed between stress particularly as a result of fatal trauma exposure and the emotions experienced by the public servants who attended such scenes (Singh & Nayak, 2015; Violanti et al., 2016). Bell et al. (2003) examined how occupational stress directly impacted vicarious traumatization, which in some cases, led to burnout. The organization served as the builder of support systems for its members, to create a culture of normalcy where the mental burdens of work occurred in excess. Until recent years, few studies addressed organizational mechanisms to prevent or reduce the effects of vicarious traumatization (Grawitch et al., 2015; Shoji et al., 2015; Tuckey & Scott, 2014).

Researchers primarily examined sworn personnel when studying organizational response to job-related stress in law enforcement. McCarty and Skogan (2013) studied sworn and civilian staff in an effort to demonstrate the comparative effects of burnout and the perspectives of organizational support. History within law enforcement agencies showed that management neglected the mental health needs of civilian personnel (McCarty & Skogan, 2013). The Maslach Burnout Inventory was utilized along with additional questions regarding health and job satisfaction to determine the levels of stress and burnout in multiple aspects of law enforcement from the 2,078 sworn and 486 civilian participants representing 12 agencies (McCarty & Skogan, 2013). Although the duties of the sworn officer were notably different than those of any civilian position, McCarty and Skogan (2013) found the levels of burnout to be relatively similar. Reasons for stress and burnout existed for sworn and civilian personnel, yet research showed that

fewer programs were established to reduce the effects of critical incident exposure and the potential for burnout in civilians.

Sworn and civilian personnel have met the needs of the public, who have no alternate agency for safety and protective services. The public often has associated the deficits and dysfunction or the advancements and proactivity of law enforcement organizations with each individual member, sworn or civilian. The members of the organization were constant representatives for the mission, vision, and services of the organization.

Installation of civilian law enforcement personnel arose from the need for versatility within the administrative and record-keeping duties of law enforcement. Budgetary constraints and increasing crime rates brought about the recommendations to infuse non-sworn personnel into police agencies to allow trained, sworn officers greater capacity to reach the public (McCarty & Skogan, 2013). Early days of civilianization in law enforcement were difficult for the civilian personnel, deeming the duties as necessary but incomparable to those of the paramilitary status of the sworn (Griffiths et al., 2015; McCarty & Skogan, 2013). For lesser salaries and fewer long-term benefits, civilians were accepted into more areas of the organization and positions requiring advanced education and technical skills became more associated with civilians than sworn. Police services soon hinged on the combined efforts of sworn and civilian involvement.

Although the opportunities for civilians grew, relationships between sworn and civilian personnel were notable unequal (McCarty & Skogan, 2013). Civilian positions in law enforcement expanded from clerical to technical and more recently into non-

hazardous patrol positions and investigative assistance (Davis, Lombardo, Woods, Koper, & Hawkins, 2013). Davis et al. (2013) also noted the evolution in the attitudes of sworn personnel toward civilians, moved from resentment for jobs taken to feeling accustomed to civilian presence. The mentality and behavior of sworn personnel, including that of leadership, toward civilian personnel, directly affected perceptions of organizational support. Literature was limited in the examination of perceived organizational support for civilians employed in law enforcement agencies.

While the needs of employees in law enforcement agencies were acknowledged, understanding POS and the dynamics of the reciprocal relationship between employer and employee was also significant (White & Robinson, 2014). The law enforcement organization bore the responsibility for promoting and maintaining a professional, conscientious working environment. This environment hinged upon the motivation of leadership to offer support and policies to face the challenges of the job, including the psychological impact of critical incident response for all employees (White & Robinson, 2014).

Literature Review Related to Key Variables and Concepts

The concepts of occupational stress and vicarious traumatization presented a basis for the exploration of common features of law enforcement personnel. The connection between occupational stress and perceived organizational support was well documented. Occupational stress factors for first responders and other high-risk occupations identified critical incident stress, which included frequent exposure to trauma, as a source of concern for employers and employees. Employment status as sworn or civilian CSI was

described as a characteristic determinant of resource allocation in this study. The variables of resource availability, frequency of traumatic exposure, tenure in the CSI position, level of education, and gender are discussed in the following sections as potential predictors of perceived organizational support. Studies noting the concepts of stress in crime scene work, and work-based and individual coping mechanisms for critical incident stress were also found.

Critical Incidents and Crime Scene Investigation

Crime scene investigation functions maintained a place in criminal investigation and evolved with the inclusion of science and advancements in technology. Initially, the work of the CSI was performed by sworn law enforcement personnel, yielding a few differences in the perspective of scene documentation. Before crime scene investigation became popularized by the television series *CSI* and the other programs attracting the morbid curiosities of the viewing public for death and traumatic event investigations, CSI positions were transitioning from all sworn personnel to a mixture of sworn and civilian personnel assigned to aide detectives at scenes (International Crime Scene Investigator's Association, 2017; McCarty & Skogan, 2013). The education and training requirements for CSI positions have also evolved as have those for many positions in law enforcement. Where a high school diploma was once sufficient, college aptitude recently made the opportunities for CSI positions more competitive. Forensic curricula have infiltrated many universities and high school programs and hundreds of programs have incorporated forensic science activities to answer the calls of youth and adults attracted to the *glamour* and inquiries for becoming a CSI (American Academy of Forensic Sciences, 2017;

International Association for Identification, 2017; Scanlan, 2015). International certifications in forensic disciplines have become an integral component of the forensic community. The International Association for Identification and the American Academy of Forensic Science offer standardized tests for certification in crime scene investigation and other forensic disciplines (AAFS, 2017; IAI, 2017). Crime scene certification was designed to add to the credibility of forensic testimony and training, although certification has not been a requirement in many law enforcement agencies (Gabel, 2014). For agencies and individuals seeking certification, the application criteria, test costs, test length, and the history of test failure rates were potential additional sources of stress for CSIs.

Crime scene investigation training incorporated the introduction to several forensic disciplines due to the unpredictable nature of crime. CSI training included the documentation, recovery, and preservation of latent prints, blood spatter, trace evidence, firearms and ballistic evidence, biological and chemical evidence, and pattern evidence, such as shoe and tire tread impressions (Schuck, 2017). The depth and extent of use of the training were dependent upon organizational support based on justification for the training, agency funding, accessibility to the training, crime trends, and labor. Agencies with few or no CSI personnel have relied on outside agencies in neighboring jurisdictions for forensic needs. For agencies supplying the needed function, additional opportunities for exposure to critical incidents arose, along with the stresses of maintaining communication about the progression of case status as well as follow-through for the judiciary process.

Crime scene investigation reveals the dark side of humanity. McCarty and Skogan (2013, p. 5) stated, “all jobs in law enforcement are demanding, requiring employees, both sworn and civilian, to make emotional connections with citizens or suppress emotions when being exposed to information about crime.” When assigned a case, the CSI was made privy to classified information and significant details of crimes and victims. With tools of the trade, including notepad, camera, and a vehicle filled with evidence collection and documentation necessities, the CSIs prepared themselves to enter almost any scene. Multiple distributors have equipped the CSI with protective coverings, such as Tyvek suits, goggles, filtered respirators, gloves, and booties, however, the eyes, ears, and mind were limited in protection (Clark et al., 2015). The provision and maintenance of proper protective gear and supplies reflected on the leadership of the law enforcement agency. Without the appropriate tools, the CSI was limited in techniques useful for specific types of evidence collection and analyses.

Kelty and Gordon (2015) included crime scene examiners (CSE) among the professionals at high risk for occupational stress. Kelty and Gordon (2015) also referenced the works of Lazarus and Folkman, and Violanti, who acknowledged the potential for physical and psychological effects associated with occupational stress. Occupational stress in crime scene investigation incorporated exposure to critical incidents, which over time led to symptoms of vicarious traumatization and re-traumatization (Clark et al., 2015). Stress, for the CSE, was environmental and the impacts of stress have evolved over time (Kelty & Gordon, 2015). Through a mixed-methods study, Kelty and Gordon (2015) examined the resiliency of forensic

practitioners, noting the quality of the CSE as having a positive outcome on beneficial evidence submissions, leading to efficient case outcomes for successful court proceedings. Supervisor responsibility was promoted as a method of CSE support for occupational stress and attrition reduction (Kelty & Gordon, 2015). Following the analyses of the mixed methods data collection, the themes of occupational stress, particularly shift work, and stress prevention were identified (Kelty & Gordon, 2015). The qualitative data obtained from the study revealed the need and use of coping strategies for maintaining composure during critical incidents. Kelty and Gordon (2015) referenced the Work Health and Safety Act 2011 enforced in Australia, identifying the employer as the entity responsible for member well-being. CSIs in the U.S. have shared many duties as their counterparts in other countries, including the self-management of stress, yet policies for well-being have not reached beyond the awareness of a few agencies.

The foundation of crime scene investigation rested on the ability to document, recover, and analyze evidence, primarily through scene attendance. The CSI was responsible for attending critical incidents including single and multiple-victim homicides, suicides, traffic fatalities, accidental deaths, suspicious deaths, arsons, sexual assaults, and unattended natural deaths that may present children or adults of all ages, as well as agency member injuries or deaths (ICSIA, 2017). Critical incidents also have occurred at any hour and any location, requiring enhanced skills and training regarding buried bodies, dismemberments, burned and electrocuted bodies, floaters and drownings, animal neglect or abuse, and conveyance incident documentation. Extreme high or low

temperatures, rain, winds, darkness, bodies of water, poisonous plants, rodents and bugs, snakes, unmanaged pets, high grasses, structural dangers in poorly maintained buildings, and burned building debris have added to the concerns for CSI self-preservation while attending crime scenes. Chemical and biological hazards have added to the potential for harmful exposures for the CSI as well.

Aside from the stresses of the actual crime scene, the CSI also contended with the pressures of agency, public, and national discipline expectations (National Academy of Sciences, 2009). As representatives of the growing field of forensic science, CSIs have had the responsibility to maintain the integrity and to perform duties as needed for the best possible outcome in determining the evidentiary value for crime resolution, and not for the appeasement of detectives, chiefs, and sheriffs. Due to errors and misrepresented information by a minority within the forensic disciplines, forensic science was frequently examined for efforts to discount methodologies and theories (NAS, 2009). Pressure had been placed on law enforcement to perform, as seen on television, and on the CSI to apply techniques for DNA, chemistry, identification of remains, and latent print identification, always getting instant positive results (Scanlan, 2015). Regarding pressures within forensic disciplines, Reardon (2014) reported findings of a panel discussion, which demonstrated significant differences in DNA evidence collection within each level of government. Inconsistencies in the methods of collection and analyses did not signify problems in the practice, but reflected a lack of consensus among the practitioners in the development of standard procedures (Reardon, 2014).

Etter (2013) had described multiple cases of forensic discrepancies that resulted in miscarriages of justice, which required a re-examination of the evidence. Although 17 points were identified as frequent contributors to miscarriages of justice, Etter (2013) noted biased expert testimony and inconclusive results in evidence analyses as sources of extreme concern for the forensic realm. *Tunnel vision*, having a subconscious limitation on focus, was a residual effect of occupational stress, impacting crime scene processing by the CSI, potentially hindering the investigation (Etter, 2013). Without appropriate means of stress reduction through training and professional development, the CSI inadvertently may have deflected attention from pertinent evidence in a critical incident scene. Though the CSI was not the sole contributor to investigations, the CSI contributed insight for detectives. Liabilities for improper case management were a consideration for all law enforcement agencies, therefore signs of vicarious traumatization and occupational stress should be addressed before Criminal Cases Review Commissions (CCRC) become a global commonality. The CCRC of the United Kingdom was developed as a mechanism to identify the factors leading to miscarriages of justice, having found faulty forensics as a regular culprit (Etter, 2013).

The stress of crime scene investigation was examined through the perspectives of homicide investigators (Roach et al., 2016; Sewell, 1994), sexual assault and digital pornography investigators (Holt & Blevins, 2011), and police officers (Bonkiewicz, 2015; Maran, Varetto, Zedda, & Franscini, 2014). Studies of vicarious traumatization in CSIs, also referenced as Forensic Science Investigators, were minimal and often deferred to the experiences of sworn CSIs (Yoo et al., 2013). The increase in civilianization of CSI

units mandated organizational awareness and responsibility for collective member well-being, including mental health support. This study filled the gap of limited organizational awareness of the need for civilian CSI support policies regarding vicarious traumatization.

Positions at High Risk for Critical Incident Stress

Vicarious traumatization often was deemed synonymous with terms such as compassion fatigue, secondary traumatic stress, burnout, countertransference, empathic stress, and secondary posttraumatic stress disorder, (Lachman, 2016; Middleton & Potter, 2015). Vicarious traumatization was originally theorized as a psychological response triggered by exposure to a graphic or traumatic presentation of material occurring through therapy interactions (McCann & Pearlman, 1990). McCann and Pearlman (1990) built upon the prior studies of trauma-related alterations to the thought processes and mental well-being of those in place to counsel the traumatized. The victims of such crimes as rape, incest, domestic violence, child abuse, or witness to tragic or fatal violence had inadvertently transferred the symptoms of anxiety, nightmares, sleep loss, cynicism, and diminished values to the persons admonished to transition them into a safer mental place. Miller et al. (2017, p. 130) wrote, "…working closely with traumatized people or during traumatic events can take a significant toll on the psychological well-being of anyone." The collection of stories, emotional outbursts, and visual images, repeatedly shared may have manifested in the receiver, and in some cases, may have triggered similar feelings as experienced by the actual victim.

While the work environment contributed to psychological stress and the physical residual effects, the frequency of exposure to critical incidents increased the potential for vicarious traumatization, straining the mind and body. For the CSI, separation from the source of stress would defeat the function of the job, where crime scene attendance and exposure to trauma have presented the potential for burnout. Burnout stemming from organizational factors, including lack of support, hindered motivation and reflected in the interactions with the public and public safety (Miller et al., 2017). Without release or separation, the stress may have led to irreparable damage to health, mental motivations, and workplace spirituality, and could have reduced perceptions of organizational support and job satisfaction (Madden et al., 2015).

Vicarious traumatization presented in many different ways but resulted from excessive exposure to critical incidents, which triggered emotional changes in the mind and body. Kelty and Gordon (2015) noted that nearly twenty percent of first responders were at an increased risk for occupational stress. As CSIs and other occupations were exposed to trauma, coping strategies have become an innate requirement to limit the effects of the following symptoms of vicarious traumatization: physiological responses including accelerated heart rate (Adderley et al., 2012), pain, fatigue, and sickness; emotional responses including cynicism, helplessness, and desensitization (Chitra & Karunanidhi, 2013**;** Cohen & Collens, 2013; Sewell,1994); and altered thinking, such as continuous mental replay of trauma viewed, heard, or experienced, or coldness in responsiveness to others (Cohen & Collens, 2013; Joyful Heart Foundation, 2016; Sewell, 1994;). Changes in behavior and relationship, displaying avoidance, fear, or

hypervigilance to safety also have resulted from vicarious traumatization. Symptoms and behaviors for the CSI have limited the ability to perform the duties of the position or to be resilient for the unpredictable nature of crime scene work. Inattentiveness to vicarious traumatization may have resulted in investigation errors that could affect future judiciary outcomes.

Like trace evidence, contact with the victim of a traumatic event may have had an impact on anyone who interacted with the victim, such as family members, emergency medical services, hospital attendants, and law enforcement. Multiple occupations were at risk for critical incident stress. McCann and Pearlman, 1990, examined trauma therapists for the consequences of frequent exposure to traumatic stress. Social workers (Diaconescu, 2015); transcriptionists (Kiyimba & O'Reilly, 2016); healthcare professionals (Elliott & Daley, 2013; Ray, Wong, White, & Heaslip, 2013; Sorenson, Bolick, Wright, & Hamilton, 2016); and first responders (Feder et al., 2016; Guenthner, 2012; Kleim & Westphal, 2011) were the focus for many studies promoting the awareness for occupational stress and employee mental health needs.

Critical incident stress and vicarious traumatization have led to burnout in professionals, due to the interactions of re-traumatization as well as recognition of the limitations of resolution for the victims. McCann and Pearlman (1990) suggested that therapists experienced a sense of hopelessness when drawing the traumatic event from the victim. Burnout occurred as a loss for the motivation and powerlessness to resolve the issue of the victim (McCann & Pearlman, 1990). Pack (2014) highlighted the views of McCann and Pearlman yet noted the responsibility of the organization to make workers

susceptible to critical incident stress, vicarious traumatization, and burnout aware of the potential hazards of frequent exposure to trauma. Pack (2014) also found that vicarious traumatization led to vicarious resilience when coping strategies developed. Through in-depth interviews with sexual abuse counselors, and five years of focus group discussions during the study, Pack (2014) found multiple instances of direct and vicarious traumatization. Repeated gender role references appeared in the interactions with victims and also with the colleague interaction focus groups. Studies of critical incident stress and vicarious traumatization demonstrated effects on both male and female workers, yet gender studies in regard to the exploration of the availability of organizational interventions to support critical incident wellness for CSIs were absent from the literature.

Nurses encompassed another group at risk for critical incident stress and vicarious traumatization. Nursing incorporated intimate care for traumatized individuals over time, unlike crime scene investigation, which included potential traumatization through exposure to multiple scenes and evidence handling duties. Through exposure, repeated with the same or different victims, nurses and CSIs sacrificed personal safety to aide others. Lachman (2016) referred to the principle of self-sacrifice as a mechanism for ignoring personal priorities in the execution of the demands in assisting another. When self-sacrifice is reduced, patient care and safety are affected, presenting an ethical issue for the organization (Lachman, 2016). As with the CSI, when stress infected the psyche negatively, reducing the ability to cope with scene hazards, there is a liability in the investigative services performed. Repeated exposure to critical incidents increased the

potential for traumatization, which impacted the individual CSI, the organization, and the public perceptions of the forensic field. Ultimately, public safety was at risk when the persons aiding the public suffered.

Other fields were studied for symptoms of critical incident stress: inter-specialty differences in vicarious traumatization and coping for health professionals (Manning-Jones et al., 2016); correlation study of compassion fatigue, work-life conditions, and burnout in frontline mental healthcare professionals (Ray et al., 2013); the examination of irrational beliefs and secondary traumatic stress, which demonstrated inconsistency in the levels of open-mindedness in medical students, impacting the ability to be impartial in traumatic event attendance (Crumpei, 2014); and the study of the relationship between empathetic attitude and vicarious traumatization for ambulance operators, found factors to be positively correlated (Setti & Argentero, 2012). Several positions have come in contact with critical incidents and the level of organizational response or proactivity for mental health needs of persons in such positions have varied.

Frequent Exposure to Trauma, Employment Status, and Perceived Organizational Support

First responders are those individuals who were trained to respond and act in emergency situations. First responders, such as military service persons, police, firefighters, and paramedics, were often the subjects of study for work-related stress and the potential for PTSD (Skogstad et al., 2013). Researchers have repeatedly confirmed that frequent exposure to trauma had after-effects (Cieslak et al., 2014; Middleton & Potter, 2015; Skogstad et al., 2013). In healthcare and law enforcement particularly, the

after-effects included absenteeism, reduced retention, and burnout, which directly impacted the quality of services dispensed.

Frequent exposure to trauma was noted as a contributor to occupational stress and as a direct component of critical incident stress (Fjeldheim et al., 2014; Minnie, Goodman, & Wallis, 2015). Fjeldheim et al., 2014, researched the factors impacting the potential for PTSD within a sample of paramedic trainees. The frequency, type, and severity of direct exposure to trauma were analyzed to develop a profile to pre-determine those at risk for indirect or direct psychological trauma. Prior studies of South African emergency services personnel demonstrated the association between trauma exposure and mental health problems, with symptoms magnified by frequency (Fjeldheim et al., 2014). Over a four-year period, 131 first-year paramedic trainees completed a multi-layered survey assessing trauma exposure, depression, perceived stress, alcohol use, social support, and resilience, with PTSD severity as the dependent variable (Fjeldheim et al., 2014). Fjeldheim et al. (2014) noted that by the end of the first year of training, the participants reported 94% having experienced or witnessed trauma, a 28% rate of depression, and 16% expressed symptoms of PTSD. The study was limited in the differentiation between work-related trauma exposure and personal trauma exposure, which may have affected the self-reporting for the *Life Events Checklist* measure applied. Although CSIs have not responded to trauma with the same pace and life-saving goals as paramedics, the effects of frequent exposure to trauma were equally hazardous. Trauma victim contact through medical services or crime documentation may have triggered a psychological response. This study was directly related to the examination of CSIs as a

step toward understanding how the frequent exposure to trauma through evidence documentation requires a support strategy to combat the potential effects of critical incident stress.

The study of frequent trauma exposure among firefighters and CSI police reinforced the need for awareness of the cognitive toll on coping and decision-making (Levy-Gigi et al., 2014). Through the application of questionnaires and cognitive assessments, three groups (firefighters, CSI police, and a control group of trauma-unexposed) shared information on their psychological states including anxiety, depression, hope, and alexithymia (Levy-Gigi et al., 2014). The responses from firefighters and CSI police were similar and the researchers found that the respondents commonly avoided the unfamiliar, experienced or preferred isolation, and had heightened tendencies of caution. The impact of frequent exposure was visible in the efforts to reverse the response to previously negative stimuli, whereas CSI police were more able to separate events based on relevant characteristics versus grouping all common events as similar (Levy-Gigi et al., 2014). Levy-Gigi et al. (2014) revealed that occupation, even among first responders, elicits varying responses to frequent trauma exposure and that organizational awareness and support are essential to positive mental health among high-risk professions.

In the study performed by Middleton and Potter (2015), child welfare professionals were examined for burnout brought about by the duties of the position. Child welfare professionals often acted in the capacity of second responders, attending situations of abuse and neglect discovered through police investigations. The men and

women of this field may have witnessed violence or became direct victims when exposed to traumatic scenes and hostile guardians (Middleton & Potter, 2015). The frequency of exposure was elevated by the caseload and the need for repeated visits with victims, which was further impacted by the high turnover rate within social service positions (Middleton & Potter, 2015). The pressures of advocacy compounded by the psychological adversities of the job had led to an expression of severe stress symptoms. The difficulty arose when attrition forced the increase in caseload for the child welfare professional, directly increasing the potential for critical incident stress. The children were then victimized in a second way, by the lack of expected care, abandonment, and systematic neglect received when there were insufficient service providers available (Middleton & Potter, 2015). Child welfare professionals had not been studied empirically to sufficiently interpret the impact and outcome of occupational stress, which was the focus of the Middleton and Potter burnout causality exploration. Through a multiple-state collection of quantitative data, 1,192 professionals responded to a survey incorporating the *vicarious traumatization scale* and questions regarding the intent to leave (Middleton & Potter, 2015). The vicarious trauma scale measured the effect of job-related traumatic event exposure. Assessment of vicarious trauma in the CSI was imperative in determining the need for intervention and prevention resources. Additionally, occurrences of expressed and suppressed occupational stress in CSIs may alter perceptions of organizational support in the event of absent or limited wellness resources.

Firefighters were studied for the occurrence of critical incident stress, perceived organizational support, and the implementation of coping strategies (Sattler, Boyd, &

Kirsch, 2014; Sliter, Kale, & Yuan, 2014). As first responders, firefighters are directly involved in critical incident exposure, elevating chances for vicarious traumatization (Sattler et al., 2014). The promotion of resource acquisition for strengthened resilience was the basis of the quantitative study of 286 firefighters in Washington. Frequency of exposure to critical incidents, job satisfaction, and coping strategies were measured, in addition to the use of an intervention and prevention program, Critical Incident Stress Debriefing or CISD (Sattler et al., 2014). In the study, 94% of the participants were exposed to work-related traumatic stress and CISD was attended by 52% (Sattler et al., 2014). Critical incident stress debriefing offered a venue of communication and counseling for groups of personnel who have recently attended the same traumatic event in efforts to prevent or reduce stress responses. Psychological debriefing preluded CISD through advancing from single-session intervention to structured multiple-session discussions with the group involved in the incident (Tuckey & Scott, 2014). Sattler et al. (2014) found that 64% of the firefighters who attended CISD reported a decrease in stress two weeks after participation. Attitude stress intervention was a contributing factor to receptiveness for positive CISD outcomes (Sattler et al., 2014). The examination of the effectiveness of CISD for participants with a high frequency of trauma exposure was relevant to the exploration of CSI critical incident stress and interventions. The provision of optional programs may also increase perceptions of organizational support, especially when the programs are utilized or effective.

Occupational stress was observed as greater in law enforcement than in other first responder occupations (Ma et al., 2015; Skogstad et al., 2013; Violanti et al., 2007).

Violanti et al. (2007) noted the Buffalo Cardio-Metabolic Occupational Police Stress pilot study as the earliest population-based study of stress and psychosocial factors in police work. Symptoms of PTSD brought about by exposure to trauma were reflected in the *Impact of Events Scale* responses and analyses of hormonal hyperactivity in a sample of 92 police officers. Using salivary cortisol measurements for PTSD symptoms and the multiplicity of offenses in policing were limitations for the generalizability of the study. Recognizing the symptoms of critical incident stress and PTSD in police investigations emphasizes the need for preventive measures in training and professional development. CSIs face the same traumatic exposure in many instances and are susceptible to similar secondary trauma-induced stress, also requiring access to prevention resources.

Violanti et.al (2016) examined police stressors and the role of gender-based coping strategies**,** noting the effects of frequency of exposure to 60 different stress triggers. The 365 participants, 265 males, and 100 females completed the *Spielberger Police Stress Survey* as a part of a multifaceted police health study (Violanti et al., 2016). The month prior to survey participation was identified for the basis of stressful incident frequency, minimizing recall bias, yet may have reduced the chances of some stresses occurring over the recommended reflection period. Violanti et al. (2016) found equity in the highly-ranked stressors of exposure to battered or dead children, killing someone in the line of duty, and the line of duty death of a fellow officer. Thirteen of the survey stressors referenced organizational support and women reported less supervisor support and poor quality of equipment more frequently than men (Violanti et al., 2016). While sworn officers have experienced different types of stressors, several of the stressors

within the Police Stress Survey overlapped conditions in which the CSI attends: battered and dead children, line of duty death of an officer, police-involved death, and other critical incidents, risking vicarious traumatization. Violanti et al. (2016) recommended the use of organizational support programs to nurture resiliency, but duly noted the limited training and application of support due to "heavy caseloads and unavailability of formal coping mechanisms." The lack of gender-based studies in law enforcement stress revealed a considerable gap for gender-based studies in CSI stress as well. Gender acted as an independent variable for the analysis of the influence of perceived organizational support.

Another aspect of CSI stress incorporated the *CSI Effect*, signifying the expectations of persons unaffiliated with forensic work based on the trivia gained from the media glamorization of forensic techniques (Scanlan, 2015). In 2008, the NIJ reported that over 30 million viewers watched *CSI* on one night and over 70 million had watched at least three episodes (NIJ, 2008). The magnitude and effect of viewing forensic programming may have altered the thinking of jurors, attorneys, and officers in the efficiency and effectiveness of forensic evidence collection and analyses, and also in the lack of forensic evidence in some cases (Shelton, 2008). The questioned value, limitations, and inconsistencies of forensic processes highlighted in the NAS Report (2009) have also been sources of pressure and stress for the CSI. And, as uniformed personnel, the civilian CSIs were at times mistaken as sworn officers and experienced similar public disdain when they attended scenes visible to distrusting citizens.

The risk of developing any form of direct or secondary traumatic stress or any related mental health condition stemming from traumatic exposures depended on the type of incident attended (Skogstad et al., 2013). In the review of 140 studies and articles associated with work-related PTSD, Skogstad et al. (2013) identified members of non-first responder professions who exhibited symptoms of PTSD, including war correspondents, industrial workers, and train drivers. Occurrences of high-level occupational stress varied among the professions, based on the frequency of trauma exposure and time span between exposures (Skogstad et al., 2013). Researchers also found that seeking psychological assistance presented a challenge to those more frequently exposed, i.e. police and firefighters, however, pre-employment screening, training, and early intervention proved successful as a means of reducing stress-related problems and the effects of PTSD or instances of secondary traumatic stress (Skogstad et al., 2013). Researchers of law enforcement organizations have demonstrated the successful use of work-based stress intervention programs, yet civilian support staff directly involved in traumatic scene investigations were infrequently studied.

Law enforcement support staff included multiple positions bearing different titles and duties determined by each agency. The majority of the civilian positions had come in contact with the public for the fulfillment of non-emergency services, provision of information or confiscated property, computer and equipment maintenance, community action, charitable events, or as volunteers. Some positions required education and training for intense investigative assistance and victim aide: victim advocates-for victim and witness counseling and resources; civilian or sheriff's service officers-for traffic and

property crimes; dispatchers- to disseminate the appropriate emergency service personnel while aiding the caller in a calm and tactful manner; transcriptionists- for typing of auditory interviews and interrogations; detention staff- for the input and management of incarcerated persons; and forensic services personnel, including CSIs- for crime scene response at all times in all conditions (Davis, Lombardo, Woods, Koper, & Hawkins, 2013; Shakespeare-Finch et al., 2015). For trauma therapists, there was an auditory aspect to vicarious traumatization (McCann & Pearlman, 1990) that is also common for dispatchers and transcriptionists particularly. Hearing details of traumatic events promoted mental visualization of such events, which may have entered into the subconscious of the hearer (Kiyimba & O'Reilly, 2016). Persons in position to aid victims of traumatic events i.e. first responders, CSIs, nurses, and social workers, received visual and auditory components of the tragedy.

Exposure to trauma occurred in any law enforcement position, sworn or civilian, yet the CSI had the greater potential for attendance and involvement in the assessment of crime, alongside the sworn first responder. The CSI for any agency covered a territory significantly larger than the average patrol officer (Wyatt, 2014), who was often assigned a specific district or section within their agency jurisdiction. Additionally, with fewer CSIs, the frequency of traumatic crime scene attendance was subsequently higher than that of the average patrol officer, depending on the crime rate, individual CSI training and experience, and agency expectations for the forensic personnel.

Various positions required engagement with victims and survivors of traumatic situations. The CSI was among those who saw and heard a victim retelling of violence,

injury, or loss. Indirect transference of trauma occurred between the victim or tragedy and the responder. The civilian law enforcement transcriptionist engaged with the victim, perpetrator, and investigators by means of providing a script of interviews and interrogations. Kiyimba and O'Reilly (2015) examined the emotional impact of transcribing recorded interviews, acknowledging that some key positions in investigations were considered *invisible* and should have been given consideration for critical incident well-being (Kiyimba & O'Reilly, 2015).

Using a qualitative grounded theory design with purposive sampling, twelve transcriptionists were interviewed for their perspectives and generated the themes of emotional distress, coping, helplessness, need for support, and lack of safeguarding protocol (Kiyimba & O'Reilly, 2015). A plea for awareness for the potential impact of personal responses to sensitive material was rendered by experienced transcriptionists due to risk for vicarious traumatization (Kiyimba & O'Reilly, 2015). The study was limited to the transcriptionist population of the United Kingdom and reflected the views of a select sample, yet connected the hidden workers with those therapists, clergy, and first responders who dominated studies of vicarious traumatization and secondary traumatic stress (Crumpei, 2014; Kiyimba & O'Reilly, 2015; Marchand et al., 2015). Unacknowledged secondary traumatic stress hindered the performance of the employee, demonstrating a lack of interest from the organization utilizing that service, and promoting the need for policy regarding stress intervention. The exploration of transcriptionist susceptibility to vicarious traumatization was highly relevant in comparison with CSI case involvement.

The CSIs of England and Wales demonstrated the value of collective knowledge of forensic disciplines in the exploration of the effects of routine trace evidence collection and exposure to contamination, as noted by Wyatt (2014). Wyatt (2014, p. 455) wrote: "…participants saw their ability to identify meaningful trace and transform it into forensic artifacts as the esoteric knowledge that delimits CSI's expertise from wider police and lay personnel." Wyatt (2014) used semi-structured interviews and observations of ten CSIs to uncover the significance of CSI training, finding a general lack of understanding from the public, court system, and law enforcement. Huey and Kalyal (2017) interviewed thirteen police officers to explore the emotional impact of investigations. Acknowledging the toll on mental health in criminal investigations suggested that others coming in contact with tragic scenes are susceptible to psychological effects. Through thematic content of analysis of the interview, Huey and Kalyal (2017) found the following to be significant: a) incorporation of a policy of customer service, with addressing stressful scenes, b) practice in empathetic appearance, c) recognizing personal distress, and d) coping strategy development. The study identified depersonalization as a hazard of frequent homicide attendance, as well as other symptoms of burnout and vicarious traumatization, which also impacted the CSI. An evaluation of the emotional labor of crime scene investigation and the negative post-trauma outcomes required further research.

Officer perceptions of law enforcement support staff have revealed discrepancies in the equality of critical incident stress management. Ludwig et al. (2014) noted that officer perceptions of CSEs (CSIs) were related to the contributions of assistance or

information offered to the CSEs. In a cross-lagged panel study of performance monitoring of 24 CSEs, accountability was stimulated over time with the introduction of policies for goal-setting, quality control and longevity (Ludwig et al., 2014). Goal-setting drove performance, however, the determination of internal and external factors, such as traumatic scene exposure, the volume of scenes attended, or other factors indicated a problem for some participants (Ludwig et al., 2014). In the current study, the association between availability and use of resources for traumatic scene exposure and perceived organizational support was addressed to supplement prior research in law enforcement professions.

Minnie, Goodman, and Wallis (2015) described the impact of traumatic scenes and coping mechanisms employed by 189 emergency medical services (EMS) personnel in Africa and observed that length of service was related to the level of traumatic stress. Minnie et al. (2015) also offered that dispatchers were also emotionally connected to the traumatic incidents and would possibly benefit from research performed. The organization studied had the Independent Counselling and Advisory Services as a means of critical incident intervention. More targeted intervention programs specific to positions in the organization were recommended due to the high levels of mental stress reported (Minnie et al., 2015). Length of service, inclusion within an existing intervention program, as well as cultural conditions (socio-economic and health concerns of Africa) were related to the mental health of those responding to traumatic incidents (Minnie et al., 2015). The study was effective in the demonstration of the prevalence of exposure and levels of psychopathology, however, the mixed-method approach presented neither

the number of interviews nor the allotted length of time for recall of traumatic events. The reference to organizations with existing stress intervention programs inclusive of civilian law enforcement staff provided additional support to maintain critical incident wellness programs with alternate CSI-specific strategies.

Van Gelderen and Bik (2016) found that social support resources (i.e. supervisor or coworker support) were essential in the development of positive work practices, affecting commitment. In a study of 114 police officers, a commitment was shown to be directly related to the incorporation of support in regular practice, in effect relating POS to the use of work-based support (Van Gelderen & Bik, 2016). Dutch citizens (250), as crime victims, offered input through questionnaires regarding the police services received for comparison to the self-reported perceptions of officers (Van Gelderen & Bik, 2016). Performance, as related to social support services, were analyzed through structural equation modeling, determining that positive social support led to commitment and engagement. The establishment of the connection between POS and commitment to effective work performance was significant for multiple occupations. Internal and external relationships were shown to be affected by the availability of support services. Van Gelderen and Bik (2016) were limited by the subject profession of policing and the culture of the Dutch nation examined. The expansion of the study to explore the relationship between available stress resources and POS within CSIs may signify the importance of organizational responsibility in critical incident stress management for all at-risk employees.

Understanding POS within sworn officers was essential to providing the resources that encourage retention, instructional expertise, and critical incident wellness in law enforcement. Holt, Blevins, and Smith (2017) noted the absence of forensic personnel in studies of POS. Holt et al. (2017) surveyed 670 forensic employees working in the capacity of evidence documentation, collection, and analyses and found that occupational stresses accounted for physical and psychological problems. "Stressors intrinsic to the job…relationships at work, and…the role of the organization" were included among the factors associated with high levels of stress among employees (Holt et al., 2017, p. 36). Multivariate ordinal regression was applied to the dependent variables of job stress and satisfaction in relation to twelve independent variables, including the length of service and supervisory support (Holt et al., 2017). The study gave significant support for the relationship between occupational stressors unique to forensic personnel and organizational support for work-based interventions. Although forensic personnel acted in specific capacities and disciplines such as crime scene investigation, biology, latent prints, and chemistry, specific to each agency, the lack of differentiation between the forensic positions was a limitation of the study. Job stressors among the participants were self-reported and location, agency size, and types of evidence examined may have also contributed to the responses. Holt et al. (2017) found that perceived supervisor support (a component of organizational support) was directly related to job satisfaction. As mentioned in previous studies (Griffiths, Pollard & Stamatakis, 2015; Kelty & Gordon, 2015; McCarty & Skogan, 2013), job status as sworn or civilian was a suspected factor in the reporting of stress among the participants (Holt, et al., 2017). This study addressed

the gap in the literature by identifying job status as it related to POS and the use of work-based stress intervention resources.

Perceived organizational support studies

POS was based on the concepts of social exchange theory and reciprocity, demonstrating the value of the relationship between the employee and employer (Eisenberger et al., 1986; Armeli, Eisenberger, Fasolo, & Lunch, 1998). In a two-part study of organizational commitment, Eisenberger et al. (1986) constructed the SPOS as a mechanism for employees to evaluate their level of benefit or harm from the organization in varying situations. The 7-point Likert-scale applied to 36 statements of anticipated organizational response to employee effort, errors, and efficiency. The survey was presented to employees in a wide range of occupations including manufacturing, phone company workers, teachers, and post office clerks. Eisenberger et al. (1986) determined that there were costs associated with low perceptions of organizational support, impacting the employee and the employer and that POS directly affected employee behavior in such areas as commitment and absenteeism. Additionally, the POS of the employee reflected the attitude of the organization, as the employee acted as a representative of the organization (Eisenberger et al., 1986). Data collected from the 361 participants was evaluated through the method of principal components, factor analysis, and regression analyses confirming the relationship between employee POS and commitment/absenteeism (Eisenberger et al., 1986). The study was limited by the exclusion of law enforcement personnel among the participant occupations. The basis of beliefs regarding organizational support was a controlled variable and may have included

self-reporting bias. Eisenberger et al. (1986) summated that POS was associated with the employee need at a specific time, whether the need is rewards or praise, leadership input, or inclusion in decision-making and that POS mirrored respect and moral obligation. The examination of the POS of the CSI was important in the assessment of staff well-being, and to the determination of employee needs for emotional assistance, particularly following traumatic scene attendance.

As previously stated, contributing factors to POS included rewards, promotion and growth opportunities, and decision input (Madden et al., 2014); organizational (internal) and public or media scrutiny (Levy-Gigi et al., 2014; Siu et al., 2015); and high-risk of psychological demands (Habersaat et al., 2015). Organizational support was linked to effectiveness (Boateng, 2014) in sworn law enforcement personnel and job commitment in varying occupations (Park, 2015; Kim, Eisenberger, & Baik, 2016). Boateng (2014, p. 135) stated that "higher perceptions of organization support correspond with increased performance." In a study based on the breach of policy for sufficient resources for Ghana Police Service officers, 145 officers were surveyed to assess POS and effectiveness (Boateng, 2014). Boateng (2014) described POS as a direct relationship with quality service, linking care for well-being to employer interest and investment in resources. Demographics of age, gender, marital status, education, and tenure of officers were incorporated in the survey along with the SPOS to determine how each was related to POS through regression analyses and the difference of means tests. The Boateng (2014) study found that tenure was conversely related to the level of POS. However, the study did not explain the conflicting result of participant age having a direct relationship

to POS. The examination of tenure in the present study built on prior research by assessing the connection of length of service to employment status and availability of stress prevention resources for CSIs. This study contributed to literature associated with policing by addressing the lack of comparable studies in the CSI context, and particularly in the civilian CSI context.

Sworn officers have also been the subjects of studies relating POS to traumatic exposure and resiliency (Siu et al., 2015) and POS to engagement and motivation (Gillet et al., 2013; Mohamed & Ali, 2015). Siu et al. (2015) found that limited support for officer health led to higher turnover rates and that the investment in *psychological capital* (PsyCap) promoted greater resiliency for trauma-induced stress. Turnover incurred costs associated with recruitment, training, and the limitations of services until sufficient staffing was achieved. In the survey of 311 Hong Kong police officers, psychological capital, turnover intentions and stress symptoms were among the variables analyzed through structural equation modeling (Siu et al., 2015). The provision of resources for psychological support was found to contribute to greater job satisfaction and reduced turnover, further acknowledging the significance of supervisory support and stress intervention training (Siu et al., 2015). The use of the cross-sectional survey design and purposive sampling accounted for limitations in the study, including ineffectual causation and potential bias in self-reported data, reducing the generalizability of the findings (Frankfort-Nachmias et al., 2015; Siu et al., 2015).

The quantitative study of 332 German police employee-dyads examined organizational support as part-contributor to ethical and unethical behaviors (Jacobs et

al., 2014). Counterproductive behavior was gauged as unethical and was not always observed by supervision, yet accumulated counterproductive behavior was discernable in overall performance (Jacobs et al., 2014). The organization bore responsibility through leadership and modeled support to effect positive employee behavior, which led to effective public safety practices in some respondents. The *Positive Affect Negative Affect Scale, Perceived Organizational Support* (POS) scale and the *Perceived Supervisor Support* (PSS) scale were used to examine actions (ethical and unethical) and organizational and supervisory impressions (Jacobs et al., 2014). Through structural equation modeling and analysis of variable inter-correlations, POS and PSS were found to be significantly related to unethical behaviors. Although the German culture of policing and self-reported data impacted the results, the findings related to the current study in that policy officiating organizational support influenced employee performance and positive actions. The sworn and civilian CSI would have potentially benefited from proactive supervisory and organizational support.

Mohamed and Ali (2015) also explored POS as it related to job performance through analyses of survey data collected from university engineering staff. Contrary to prior research, the hypothesis of the study suggested that there was no correlation between POS and organizational rewards, although consideration for employee well-being was welcomed (Mohamed & Ali, 2015). Organizational support was considered a presumption, based on the expectations of autonomy and job security (Mohamed & Ali, 2015). The analysis reflected a positive correlation between POS and job performance,

however, the lack of specificity in population and the absence of sample size information made the findings ungeneralizable.

Houston-Kolnik, Odahl-Ruan, and Greeson (2017) also found that limited organizational support impacted employee performance. The qualitative study investigating the perceived barriers that volunteer rape crisis advocates faced when seeking support found that the 15 subjects interviewed demonstrated symptoms of vicarious trauma from work-related exposure (Houston-Kolnik et al., 2017). Those who sought external support and practiced self-care were encouraged, yet internal (work-based) support requests were denied, according to participants (Houston-Kolnik et al., 2017). The unequal access to resources was a limitation of this study and the voluntary nature of the position reduced consistent supervisory/mentor involvement, which diminished the generalizability of the findings. The research performed by Mohamed and Ali (2015) and Houston-Kolnik et al. (2017) examined non-policing positions, however, the participants in positions at risk for critical incident stress expressed significant connections between organizational support, job performance, and well-being directly relate to the needs of the CSI.

In a quantitative examination of Florida police officers, Miller et al. (2017) applied the SPOS, professional quality of life (ProQOL), and perceived coworker support scales to determine correlations between POS, work-based support, and quality of life. Miller et al. (2017) acknowledged that literature on sworn law enforcement wellness was limited, although the outcomes of limited support directly impact interactions with the public and public safety. Miller et al. (2017) noted that POS represented the employee's

internal acknowledgment that the employer cares for them and that poor job performance, burnout, turnover, and lowered commitment were among the negative outcomes potentially resultant from poor work-based support. The 826 officers surveyed represented 2.3% of the active law enforcement personnel solicited, possibly due to resistance, non-compliance, or concerns of confidentiality (Miller et al., 2017). Despite the limited sample, the results were consistent with prior studies of POS and burnout. Perceptions of organizational support were negatively related to burnout and secondary traumatic stress (STS), and "high levels of burnout and STS lead to a reduction in the capacity or desire to assist traumatized people" (Miller et al., 2017, p. 134). The researchers recommended the development of policies to improve stress prevention and intervention programs for sworn law enforcement, yet policy discussion would not move forward for CSIs until the severity of the problem of POS and available resources for sworn personnel was acknowledged. The current study contributed to the literature by assessing the POS of crime scene personnel and determining the availability of stress prevention and intervention programs within corresponding police agencies.

Studies have shown that perceptions of organizational support were influenced by many factors including job satisfaction and leadership (Jacobs et al., 2015; Masal & Vogel, 2016), work-based gender and racial disparity (Kim et al., 2016; Pasciak & Kelley, 2013; Wilson & Wilson, 2014), and burnout due to frequent exposure to trauma (Miller et al., 2017). Other research showed that perceived organizational support impacts quality of life and productivity (Boateng, 2014; Ghasemizad & Mohammadkhani, 2013), organization-based self-esteem (Arshadi & Hayavi, 2013; Ghosh, 2016), turnover

intentions (Madden et al., 2014), self-motivation (Gillet et al., 2013), and use of stress intervention services (Tucker, 2015).

Tucker (2015) noted that critical incident stress may interfere with job performance, as a combination of operational stressors and organizational stressors manifest within some police officers. The operational stressors, including shift work, overtime, excessive paperwork, and exposure to job-related violence and critical incidents, as noted by Tucker (2015), were also common to those experienced by the CSI. Tucker (2015) addressed the gap in the literature regarding the use of stress intervention services due to the voluntary aspect of the intervention, only used upon officer readiness. Although research on police perceived organizational support showed a positive relationship between POS and willingness to utilize available services (Tucker, 2015), information regarding the POS of civilian CSIs was limited. Tucker (2015) also acknowledged the gap of justification for the limited use of services among police officers. In the examination of 673 officers representing 223 agencies, Tucker (2015) unsuccessfully attempted to separately address POS and POS of stress interventions, finding a strong correlation between the two variables. Through hierarchical multiple regression analysis, Tucker (2015) was able to determine an order of influencing factors associated with police officers' willingness to use stress intervention services. Having services available encouraged officers to utilize the varying resources, in addition to increasing self-care efforts. Benefit utilization was among the hypotheses, as expected from the prior study of POS (Eisenberger et al., 1986); however, Tucker (2015) suggested such data supporting benefit avoidance was outdated. In the current study, the existence

of agency stress intervention policies, usage, and the receipt of prior CISM or peer-support training was asked, as CSIs may have faced similar realities of service availability.

Organizational effects of critical incident stress

Manning-Jones et al. (2016, p. 20) described vicarious traumatization as the result of "exposure to details of a traumatic event through direct contact with a trauma survivor." Exposure to trauma was a standard component of crime investigation and recognition of the effects of exposure is significant to developing resilience and determining effective coping mechanisms. How individuals cope with occupational stress determined job satisfaction, perceived organizational support, and quality of work-life and home life. A meta-analytic review of literature on the sworn perceptions of occupational stress showed inconsistencies in the correlating factors influencing perceived organizational support (Webster, 2013). The psychological approach had been the most common evaluative measure for examining the stresses of law enforcement, and a policy approach was limited to significantly fewer studies (Webster, 2013). The cumulative number of respondents reporting effects of operational exposure, including frequent exposure to trauma and suffering, was 3,791 within the 103 studies reviewed (Webster, 2015). The review also revealed common adaptive and maladaptive coping behaviors among the respondents, denoting how occupational stresses were individually directed. Perceived organizational support appeared as it related to the criminal justice system processes, discipline, and resource availability, and yet the meta-analysis suggested a lack of consistency with focus, methodology, and findings. The meta-

analysis also confirmed the lack of concentrated efforts at the dissemination of studies and findings on the topics of law enforcement occupational stress and organizational support (Webster, 2013). The examination of prior studies of police stress had a valuable connection with the exploration of CSIs frequently exposed to trauma through criminal investigations.

Frequent exposure to trauma, as well as exposure to different types of trauma, were described as instrumental in the development of vicarious traumatization or PTSD and in the adaption of coping strategies (Fjeldheim et al., 2014; Wilker et.al, 2015). In the qualitative study of 15 volunteer rape crisis advocates, Houston-Kolnik et al. (2017) reported the correlation between exposure to trauma and the impact on mental health, burnout, and turnover. Absent or limited organizational support through policies and supervision also contributed to the development of vicarious trauma, which ultimately impacted job performance (Houston-Kolnik et al., 2017). Sewell (1994) was an early campaigner for the installation of training programs for stress management, due to study findings on the residual effects of homicide investigations for detectives. A level of detachment was necessary for aiding in death investigation, however, Sewell (1994) shared that detachment limited clarity of vision, ultimately effecting the case closure. Sewell (1994) expressed the potential for desensitization, use of dark humor, and diminished verbal communication as possible outcomes of frequent exposure to the trauma of homicide, not only for homicide detectives, but also for emergency medical personnel, medical examiners, and crime scene personnel.

In the examination of correlates associated with police stress, Webster (2014) determined that multiple job and personal characteristics contributed to stress-related behaviors, such as coping strategies or the development of psychological disorders. The demands of law enforcement, including the environment of trauma and the individual situations surrounding the scene, impacted the individual receptiveness for COR. Middleton and Potter (2015), as mentioned, connected the stresses of trauma exposure in the form of vicarious traumatization to potential turnover and job longevity. Unfortunately, employees who have experienced work-related stress may not have sought treatment or shared the causes of stress for fear of appearing inadequate or weak, making avoidance the most common coping strategy (Minnie et al., 2015). Through a cross-lagged panel study of human service providers in the United States and Poland assessing job burnout and secondary traumatic stress, Shoji et al. (2015) determined a relationship between the length of service and frequency of indirect exposure to trauma. Structural equation modeling and correlation analyses were applied, resulting in a positive relationship between the level of job burnout and level of secondary traumatic stress. Shoji et al. (2015) were limited by the exclusion of exposure to trauma via electronic or printed media as a source of vicarious traumatization. The study was also limited by the absence of exposure frequency and types of organizational training and intervention programs accessible to participants (Shoji, et al., 2015). The study addressed both exposure frequency and the availability of organizational resources for a different occupational group.

In the qualitative study of police personnel in South Africa, Elntib and Armstrong (2014) confirmed that the frequency of exposure ultimately infringed upon the expectations for public safety. Minnie et al. (2015) found a similar phenomenon, which occurred in the Elntib and Armstrong (2014) study, of the fear of ostracism as an avoidance mechanism for seeking psychological support. Resilience following indirect trauma exposure was determined to occur naturally, however, the frequency of exposure overwhelmed recovery time, thereby increasing the likelihood of fatigue and depression (Elntib & Armstrong, 2014). The lack of stress briefing and debriefing among the 25 participants interviewed was not a common condition for the police population in South Africa nor internationally, limiting the generalizability of the study. Further, the retrospective recall of trauma exposure may have hindered the responses. CSIs were susceptible to the strain of frequent critical incident exposure, which may have hindered decision-making during job performance if the intervention was not addressed.

Within law enforcement investigation, divisions were created to address the specific needs and crimes facing the agency. Some agencies have had teams assigned to robberies, homicides, computer crimes, or domestic violence, in addition to many other units requiring specialized training with the expectations of meeting the needs of specific situations and victims. Crime Scene Investigators have attended scenes of all nature of crime and were trained to document and recover evidence in all conditions from larceny to death investigations, being prepared physically and psychologically to give attention to the needs of the scene. Habersaat et al. (2015) examined the risks of stress among the varying divisions of law enforcement by surveying 84 Swiss police and found that work

divisions were not a significant component of stress through hierarchical cluster analyses and MANCOVA. In the exploration of health risks associated with law enforcement work, Habersaat et al. (2015) noted exposure to violence and volatile situations, compounded by the support and coping style, contributed to stress. Although exposed to a higher volume of trauma and violence, police emergency responders did not report greater levels of posttraumatic stress symptoms than other participants (Habersaat et al., 2015). Thus, the CSI, at risk for varying levels of traumatic exposure within different agencies, experienced a similar level of occupational stress as participating officers have reported. One limitation of the Habersaat et al. (2015) study was that organizational structure among participating agencies impacted individual responses, demonstrating participation bias.

The impact of stress within the performance of crime scene investigation was cumulative or scene-specific (Clark et al., 2015). Vicarious traumatization was characterized by the frequency of exposure to the traumatic experiences of others, yet single exposures have triggered symptoms of stress for the CSI. Clark et al. (2015) were among the few researchers to explore the challenges and interventions of law enforcement agencies regarding the stresses experienced by crime scene investigators. Sworn and non-sworn CSIs from 14 agencies in a Midwestern state participated in a quantitative examination, which addressed post-incident stress and perceived organizational support. The *Survey of Perceived Organizational Support,* the *Spielberger Police Stress Survey,* and the *State-Trait Anxiety Inventory* were used to determine if CSIs were suffering from symptoms of critical incident stress and their perceived levels

of organizational support. While years of service was not a variable for the study, employment status, age, rotational schedule, and gender information were solicited from the participating 51 CSIs. Clark et al. (2015) confirmed that 63% of the participants experienced moderate to high levels of critical incident stress symptoms, which were compounded by the morbidity of highly violent scenes. Negative coping strategies were also prevalent among the CSIs reporting low levels of POS (Clark, et al., 2015). The level of POS was correlated as negatively related to the level of stress, and positively related to feelings of isolation among responding CSIs (Clark et al., 2015). The study of the Midwestern CSIs was limited in generalizability due to the lack of discussion as to the types of incident exposure and also the lack of comparative analysis for the aspects of sworn and non-sworn responses. The current study evaluated the variables of employment status, length of service, and accessibility of stress intervention resources for CSIs and the relationships to critical incident stress and POS to evaluate CSI conditions in an alternate state.

Employment status as sworn or civilian impacted levels of POS. Leone and Keel (2016) incorporated employment status within data collected from 290 criminalities personnel within the membership roster of the International Association for Identification (IAI). The occupational stresses faced by public service employees were connected to health complaints, which triggered the organizational institution of stress intervention training and policies (Leone & Keel, 2016). Leone and Keel (2016) also recognized the significance of trauma exposure for the CSI, referencing the time spent at scenes as an additional source of stress. Occupational stress was framed within the areas of internal

organizational stress, external organizational stress, duty stress, and personal stress, as referenced by Leone and Keel, 2016. Although sworn officers have reportedly experienced high levels of occupational stress in several studies (Kim et al., 2015; Kuo, 2015; Kula, 2017; Ma et al., 2014; Webster, 2013), Leone and Keel (2016) evaluated POS and applications of peer support for the stresses of CSI work. Through bivariate correlational and univariate regression analyses, occupational stressors and mitigation opportunities were explored, finding sworn CSIs reporting greater access and use of stress prevention services than civilian CSIs (Leone & Keel, 2016). The availability of stress prevention resources was inversely related to levels of reported stress for the participating CSIs (Leone and Keel, 2016). The study set a foundation for the examination of the correlation between CSI employment status and length of exposure research. The current study furthered the research of Leone and Keel (2016) by investigating the relationship between employment status, available stress resources, and POS, and the incorporation of work-based support as a coping strategy.

Absent or limited resources for occupational stress education and intervention have led to vicarious traumatization, burnout, and victimization (Ellrich, 2016) in law enforcement personnel. The rate of crime scene attendance and exposure to trauma developed into a cumulative stress effect (Clark et al., 2015; Craun et al., 2014), leading to burnout and vulnerability to exhaustion, victimization, or depersonalization of the recipients of investigative services (Ellrich, 2016). Symptoms of burnout also have included health problems, depression, and diminished self-care, which may exacerbate the exhaustion, victimization, and depersonalization components of burnout. When

depersonalization occurred within the sworn officer, the public seeking services reported as being dehumanized and approached with little to no empathy, which also offers a theoretical basis for police violence toward gang members, petty criminals, and those who do not appear to be productive citizens, as they appeared less human. Ellrich (2016) described depersonalization as a contributor to a positive attitude toward violence. A total of 1,931 German police officers participated in the survey, which required reflection on violent situations. Multilevel structural equation modeling provided the result that symptoms of burnout made officers less likely to protect themselves and officers reporting depersonalization were more likely to demonstrate aggression in situations of conflict, increasing chances of victimization (Ellrich, 2016). Prevention of emotional exhaustion ignited by frequent exposure to trauma was recommended in order to reduce the escalation of burnout. The limitations of the cross-sectional design and self-reporting are points of continuity from previous research, and also Ellrich (2016) noted the disregard for existing aggressive personalities as a factor for attitudes toward violence. The CSI may not experience the potential physically violent encounters as officers; however, burnout encapsulated mental exhaustion and also depersonalization which may have impacted job performance. The current study aimed to determine how the absence or presence of stress prevention resources affected the CSI, and also the types of coping strategy applications.

Manning-Jones et al. (2016) explored the use of coping strategies applied to counter the negative outcomes of trauma exposure. In the examination of the effects of vicarious traumatization and coping, Manning-Jones et al. (2016) obtained survey

responses from varying disciplines within the health profession. A total of 365 New Zealand professionals responded to questions on secondary traumatic stress, vicarious posttraumatic growth, and coping through social support, self-care, and humor. Justification of assumptions for stepwise regression and multiple analysis of variance was applied to determine correlation and differences between professional specialties and exposure, secondary traumatic stress, and coping variables. Primary social support (self-care) and secondary social support (through peers, family, and friends) were both found to be beneficial to psychological health, yet varying support and the relative impact were situational. Manning-Jones et al. (2016) suggested that employers would stand to create a positive work-life balance with the inclusion of training for self-care and peer support. Types of traumatic exposure and length of service were not addressed in the study, reducing generalizability for healthcare and for law enforcement professionals. Although the study enlisted healthcare professionals, crime scene responders have also been frequently exposed to traumatic events, requiring reliance on available or learned coping strategies.

Literature was limited in the area of CSI coping and resilience research. Several studies incorporated crime scene personnel within the greater categorization of law enforcement personnel (Huey & Kalyal, 2017; Kelty & Gordon, 2015; McCarty & Skogan, 2012; Tuckey & Scott, 2014). Factors influencing law enforcement personnel stress were explored and the extent of potential impairment to regular duties produced positive findings for the inclusive strategies for determining the POS of crime scene responders. The treatment of those who reported negative responses to traumatic

experiences was the focus of the Ellison and Munro study (2016). All actors (victim, witnesses, suspects, police, detectives, CSIs, medical examiners, EMS, judge, lawyers, jury, family of each person with a direct association to the incident, and various workplace contributors) in the criminal investigation were affected in some way by traumatic incidents. The psychological impact of involvement in court proceedings, due to attendance or association with a traumatic incident, stimulated symptoms of vicarious traumatization, which was connected to work ethics and performance (Ellison & Munro, 2016). To promote awareness for the psychological consequence of maladjusted coping among CSIs, the study of the accessibility of resources for the prevention and intervention of occupational stress coinciding with the perceptions of organizational support was key to encourage policy-making and enforcement.

Coping with stress was a topic of study for multiple professions. Hobfall contributed the COR theory in studies of health professions and in education, in which the emotional toll of the occupation was handled with self-regulated responses (Alvaro et al., 2010; Park, O'Rourke, & O'Brien, 2014). Lazarus and Folkman developed the Transactional Model of Coping and Stress in the nursing profession (Kelty & Gordon, 2014), where individual stresses were based on experiences and the capacity to respond by appraisal coping. Pearlman and Saatvitke described CSDT in which individual experiences with students determined the response and adaptation to stress (McCann & Pearlman, 2010). Esaki, Benamati, Yanosy, Middleton, Hopson, Hummer, and Bloom (2013) developed the Sanctuary Model as a theoretical framework to show the connection between organizational responsibility for intervention and the CSDT. In essence,

organizations needed effective support systems to assist internal members, particularly those impacted by secondary trauma. The individual impact of trauma exposure was the result of prior experiences, the present trauma, and personality.

Sources of stress for the CSI overlapped with those of sworn officers and may have included shift-work, lengthy scenes, working with other agencies/jurisdictions, working for other agencies (Guenthner, 2012), gender discrimination (Kelty & Gordon, 2015), and exposure to trauma (Kelty & Gordon, 2015; Leone & Keel, 2016). As an under-explored population, CSIs would benefit from the exploration of stressors associated with operational and organizational duties. Prior research within the realm of law enforcement stress and POS recommend accessible resources for stress management (Andersen, et al., 2015; Kiyimba & O'Reilly, 2016; Patterson, Chung, & Swan, 2014). Vicarious traumatization required the promotion of coping skills to combat symptoms. Practicing coping strategies, whether through personal or organizational resources, encouraged positive responses when attending critical incidents, particularly when CSIs have continued to perform crime scene duties efficiently. Sollie et al. (2017) performed an ethnographic study by interviewing 30 CSIs to understand perceptions of work, the impact of stressors, and coping strategies applicable to resilience. Resilience relied upon the capacity to recover between critical incidents, with the clarity sufficient to continue to be engaged in the next incident (Sollie et al., 2017). Thematic content analysis revealed that some participants expressed concern for the mental stress associated with crime scene work (Sollie et al., 2017). Aspects of a scene, including the victim, nature of the crime, autopsy, and identification of the victim, and family around the scene, in addition

to the administrative work following a scene, compounded into stresses that CSIs absorbed (Sollie et al., 2017). The current study furthered the findings of Sollie et al. (2017) by determining the connection between the frequency of critical incident exposure and perceptions of organizational support, encompassing availability of stress intervention resources.

Intervention and Prevention Mechanisms to Combat Critical Incident Stress

CSIs were exposed to a great number of critical incidents, due to the inclusion of autopsies, excavations, and multi-scene cases, with long hours and continuous re-traumatization through photography, evidence collection, sketching, and other means of documentation. Court preparation offered another opportunity for re-traumatization (Ellison & Munro, 2017; Sewell, 1994). With increased trauma exposure, CSIs have had a greater risk for critical incident stress and psychological distress than patrol officers, who were routinely relieved or had reduced presence while the CSI was expected to complete the tasks required primarily to preserve the chain of custody and integrity of evidence (Saferstein, 2018). Although individuals responded to direct and indirect trauma in different ways, including with an absence of response, organizations have become intercessors to bridge the impact of critical incident stress as it relates to work performance and quality of life (Alexopoulos, Palatsidi, Tigani, & Darviri, 2014; McKim & Smith-Adcock, 2014). Lazarus and Folkman noted that the timing of a stressful encounter and the length of time involved in the stressful encounter were significant and that coping was a strategic tool to manage stress (Kelty & Gordon, 2015). Minnie et al. (2015) explained that coping mechanisms evolve, as coping was situational, based on

factors surrounding the individual, such as type of trauma, length of exposure, peer perceptions, and access to support to avoid suppression of emotions. Minnie et al. (2015) also reported the value of organizational responsibility in the provision of counseling services and recommended targeted and robust intervention regarding employee mental health. Dependent upon the frequency of trauma exposure and the work experiences of the CSI, the potential for traumatization existed due to the sensitive nature of violent or traumatic crime scenes.

In the study of civilian emergency medical dispatchers (EMD), Shakespeare-Finch et al. (2015) incorporated the term *salutogenesis*, as coined by Aaron Antonovsky, which described a focus on coping and well-being versus a focus on the cause(s) of the stress that triggered the need for coping. The EMD respondents expressed the advantages and disadvantages of peer support, offering self-efficacy as a positive predictor of posttraumatic growth (Shakespeare-Finch et al., 2015). Regression analyses were applied to the survey data obtained through the *Social Support Scale*, *Psychological Well-being Scale*, and *Impact of Events Scale* (Shakespeare-Finch et al., 2015). Symptoms of PTSD among the respondents ranged and correlated inversely with self-efficacy, receiving support, and giving support (Shakespeare-Finch et al., 2015), confirming the usefulness of organizational policy for available stress intervention. Although having peer support training did not significantly correlate with well-being, the value of training was found to supplement the additionally available employee assistance program benefits. The availability of options for coping with the occupational stresses of crime scene investigation supported the theories of salutogenesis and organizational support. The

Shakespeare-Finch et al. (2015) study was limited in generalizability due to the self-reporting of respondents, however, the sample size was appropriate to contribute to the limited field of emergency support staff research.

Support for mental well-being following critical incident exposure was studied for effectiveness within multiple occupations, including trauma counselors (McKim & Smith-Adcock, 2014), dispatchers (Shakespeare-Finch et al., 2014), police (Padyab, Backteman-Erlanson, & Brulin, 2016; Kaur, et al., 2013; Menard & Arter, 2014) and forensic professionals (Adderley et al., 2012; Kelty & Gordon, 2015). Self-care was promoted in law enforcement agencies, with encouragement for attentiveness to general health, involvement in hobbies or leisurely activities, as well as applying mindfulness techniques (A. Jeanguenat of Mindgen, LLC, personal communication, July 24, 2017). Critical Incident Stress Management through debriefing, and internal support through the supervisor or coworker have also been enlisted by some law enforcement agencies (Craun & Bourke, 2015; Jacobs et al., 2014; Miller et al., 2017; Sewell, 1994). The use of available organizational resources for support have received contrasting results regarding effectiveness. Tucker (2015) found that the police organization that offered counseling services reported less stress and a greater willingness to utilize services. However, Elntib and Armstrong (2014) reported the system of briefing in operation during the study as inadequate. EAP services were also proffered, with minimal usage (Donnelly et al., 2015). Although the stresses of sworn law enforcement officers were significantly studied, use of organizational stress prevention resources was limited (Arnetz, Arble,

Backman, Lynch, & Lublin, 2013; Donnelly et al., 2015) with fewer resources addressing CSI use of services.

Organizational programs. In efforts to meet the needs of employees exposed to trauma, agencies were responsible for providing information, training or services for stress intervention and the prevention of negative outcomes associated with diminished mental health. First responders often were afforded services or information, at minimum, for stress management. The Counseling Team International (TCTI) accommodated agencies, at costs, with training courses in critical incident stress management specific to the CSI (Bohl-Penrod, 2018), a complement to the services typically offered sworn police personnel. Companies such as TCTI and Mindgen, LLC recognized the significance of inadequate support for frequent exposure to critical incident stress (Bohl-Penrod, 2018; Jeanguenat, 2017) and offered training in stress intervention and coping technique development. Carriere (2014) described the global nature of the need for mental health and stress remediation studies and the potential impact of ignoring the needs for mental health services. In response, critical incident stress management (CISM) teams were organized across the globe, to involve agency members in peer support with the assistance of a trained psychologist. Critical Incident Stress Debriefing (CISD) was one tool developed to intervene between the personnel exposed to trauma and the psychological imbalance that could progress into defeating behaviors. The International Critical Incident Stress Foundation, Inc. (ICISF), with a system based on the model of stress debriefing by Everly and Mitchell in 1996, offered training and education for CISM teams, organizations, and individuals in emergency response positions and availed

a registry as an additional resource for those instituting CISM policies (ICISF, 2017). Few studies were completed to demonstrate the effectiveness of CISD as a structured method of psychological first aid among law enforcement personnel. Brookshire (2011) described the perception of effectiveness for CISM for military personnel. Respondents reported a lack of understanding, consistent application, and follow-up for those who experienced critical incident stress (Brookshire, 2011). The results of the study were not generalizable as the response rate was under 10% of Military Police Corps members with a specific regimen of training and was not representative of other law enforcement bodies.

The EAP instituted in many organizations covering multiple occupations, offered a wide range of services for limited financial, physical, and psychological support through voluntary, confidential benefits. Research on the availability, use, and effectiveness of EAP services within law enforcement organizations had been finite. Few law enforcement agencies have established publicly accessible policies regarding stress intervention services for agency members. For example, Collier County Sheriff's Office, in Naples, Florida, had instituted a mental wellness program specific to child sexual exploitation investigators in that agency, requiring pre- and post-incident stress intervention and additional training for prevention (Collier County Sheriff's Office, 2016). The government's Office of Personnel Management (OPM) surveyed employees annually to assess organizational climate on topics including EAP, and health and wellness programs. The 2017 survey reported 23% of respondents were unaware of the EAP, suggesting that the organization missed opportunities to expose personnel to

services that could have been helpful (OPM, 2018). Regular assessment of employee perceptions helped to identify areas for improvement in the services provided to the public and to the organization members.

Papazoglou and Andersen (2014) penned the guide promoting education as the most effective training tool for stress-related problems impacting law enforcement officers. The frequency of trauma exposure and the lack of organizational support combined with the quality of peer relationships correlated with occupational stress (Papazoglou & Andersen, 2014). Considering the findings confirming the high risks for stress and the stigma of weakness for those seeking help (Houston-Kolnik et al., 2017; Papazoglou & Andersen, 2014), organizational involvement in the pre-hiring, training, and academic journey of officers, as well as civilian CSIs was justified. Law enforcement agencies were responsible for the well-being of their personnel, sworn and civilian. The availability of resources had an impact on the level of traumatization and resilience (Miller et al., 2017). The current study determined the availability of work-based resources for stress intervention, coping strategy development, and the influence of access on perceived organizational support, particularly for civilian CSIs.

Intervention mechanisms were not explored in the Grawitch et al. (2015) examination of trauma and stress in the workplace, and yet the significance of peer and other venues of social support were found to be effectual for stress remediation. Coworker support was also determined to be a beneficial component to combat vicarious traumatization (Pack, 2014). Pack (2014) also recommended that professional organizations and academic institutions be proactive in providing awareness and

prevention mechanisms to protect mental well-being for those in positions at high risk for vicarious traumatization. The qualitative study of traumatization and resilience within sexual abuse counselors supported earlier findings within the constructivist self-development theory, confirming the impact of frequent exposure to trauma (Pack, 2014). Pack (2014) found that gender was influential to coping strategy and to expectations of the organization for support provision. Overall, the study was limited in that there was no external agency comparison, diminishing generalizability. The examination of alternate agency members at risk for similar indirect trauma exposure and alternate occupations may further the knowledge of vicarious traumatization and coping strategy effectiveness.

Inattention to the symptoms of critical incident stress and vicarious traumatization were found to lead to desensitization, cynicism, or burnout in prior studies. Skogstad et al. (2013) suggested that over time, sensitivity for the exposure to trauma diminishes, reducing susceptibility to the psychological effects of continued frequent exposure. Length of service in high-risk positions was related to resilience for vicarious traumatization (Skogstad et al., 2013). Additionally, length of service may have contributed to the use or lack of use of peer support (Rose & Unnithan, 2015) and also impacted external work-related relationships, such as between the CSI and court actors (Holt, Blevins, & Smith, 2017). Holt et al. (2017) examined the occupational experiences of forensic scientists and through multivariate ordinal regression analysis found that perceptions of organizational support were limited by the lack of policies and open communication, contributing to overall job satisfaction. The sample size of 670 respondents to the nationally distributed survey inhibits the presentation of policy

promotion, yet the study contributes to the minimal literature on POS within the forensic discipline. The need for stress intervention services was recognized, however, studies identifying the availability of policies offering civilian CSI critical incident support were absent.

In the exploration of perceptions and performance of crime scene examiners (CSE), Ludwig et al. (2014) found that goal-setting drove performance, which equipped management with the tools to be attentive to forensic personnel needs. Performance monitoring motivated individual CSE accountability and enlightened management to factors, such as trauma exposure, caseload, and shift work, which also influenced performance (Ludwig et al., 2014). Conversely, in the case of the South Korean study of police, the civilian affiliates were noted as restricted at a greater rate for resources, equipment, and training (Yun, et al., 2013), in addition to working toward organizational performance expectations. Cultural conditions and the differences in crime rates, organizational structure, and types of crime reduced the comparability of South Korean law enforcement respondents to forensic and crime scene personnel in the United States.

In a different study of South Korean forensic investigators, frequency of trauma exposure, duration spent for crime scene investigation, emotional intelligence, and death anxiety were among the factors measured to determine levels of posttraumatic stress (Yoo et al., 2013). Through correlation and stepwise regression analyses of data collected from 111 forensic science investigators, Yoo et al. (2013) found that personality type and length of service were independent of the factors measured. In other words, each factor (frequency of exposure, length of service, personality type, emotional intelligence,

fatigue, and death anxiety) contributed independently to the level of posttraumatic stress. Even though South Korean forensic investigators in the study were sworn law enforcement personnel, the impact and influence of the variables examined were worthy of exploration in civilian forensic personnel addressing traumatic incidents.

Law enforcement culture contributed to the development of coping strategies in response to stressful situations (Tucker, 2015). Benefit avoidance and underutilization of stress prevention resources were observed among 673 sworn officers in the empirical study of police reluctance to use stress support in relation to POS (Tucker, 2015). Studies have shown that a negative relationship existed between law enforcement stress (specifically including frequent exposure to trauma) and POS (Leone & Keel, 2016; Tucker, 2015). Boateng (2014) expressed the relevance of examining personnel opinion by sharing that action or lack of action was generated by perception. In the examination of POS as an independent variable leading to perceptions of effectiveness among 145 Ghanaian police, Boateng (2014) found that the lack of organizational support through limited investment in equipment, training, and personal resources, directly influenced officer behaviors associated with organizational commitment and job performance. A culture of unaddressed problems due to the stigma of weakness combined with absent or unenforced policies ultimately hindered effectiveness. Inversely, the availability of support for the CSI, as an invaluable component of criminal investigation, had influenced the level of commitment and performance. I sought to identify CSI levels of POS in relation to available critical incident stress resources for job effectiveness.

Work-based support for critical incident stress has appeared in the form of organizational programs (i.e., CISM or EAP), training (pre-hire or continued professional development), policy enforcement (mandatory screening and counseling), or through supervisory and peer support. Kelty and Gordon (2015, p. 275) defined work-based social support "as the support networks that employees can use in their personal and work lives, including family, friends and work colleagues." In the qualitative portion of the examination of 19 Australian crime scene examiners (CSEs) in positions of high performance, stress management and coping strategies were ascertained to include dark humor, work/life balance, and attaining a meaningful personal life (Kelty & Gordon, 2015). The same respondents also achieved a higher level of self-efficacy as measured by the *General Self-Efficacy Scale Revised*, than police recruits and average members of the general population (Kelty & Gordon, 2015). Other variables measured included resiliency, depression, stress, and volatility, for which the CSEs scored notably polar than the comparison group. The CSE participants were selected as professionals within five law enforcement agencies, which allowed experience, education, and training to aid in the development of coping strategies to deflect or minimize psychological distress (Kelty & Gordon, 2015). Though little research evaluated CSI culture in connection with stress management, organizational responsibility in shaping an attentive atmosphere for critical incident well-being potentially reduced the financial and staffing costs of burnout, attrition, and healthcare of forensic personnel. Kelty and Gordon (2015) highlighted the importance of organizational responsibility, referencing the Work Health and Safety Act

2011, requiring the employer to eliminate or minimize risks to health and safety of employees (Australian Government Federal Register of Legislation, 2016).

Supportive supervision demonstrated leadership and management skills by setting goals, learning the staff strengths and areas of improvement, monitoring the culture of the organization, and behaving proactively to maintain a positively performing organization. Studies exploring perceptions of supervisor support reported associations to POS, burnout, turnover, and job satisfaction (Eisenberger, Stinghamber, Vandenberghe, Sucharski, & Rhoades, 2002; Kula, 2017; Yang et al., 2015). The research of Kelty and Gordon (2015) confirmed the findings of prior studies, identifying the significance of strong supervisory support. In the current study, I incorporated the CSI awareness and use of supervisor support as a possible source for stress management and coping.

Peer support in public safety organizations was common due to the bonding effects of training and shared experiences and was an important resource for stress prevention and intervention. In the study of 826 Florida police officers, Miller et al. (2017) determined that peer support following critical incident attendance was a significant coping tool to combat traumatization. Miller et al. (2017) equally supported the establishment of stress management policies and programs as cost-effective ways to affect employee health, commitment, and job performance. Difficulties arose in obtaining a greater survey sample and establishing a definitive population due to participation resistance and agency noncompliance (Miller et al., 2017), impacting generalizability. The determination that high levels of burnout and secondary stress led to a reduced desire to aid traumatized people was highly significant within the surveyed officers. The current

study determined the occurrence of vicarious traumatization as it impacted willingness to respond in full capacity at future traumatic incidents, also influencing the installation or enforcement of stress management policies.

Shakespeare-Finch et al. (2015) also examined the effects of social support in a public safety occupation. The data collected from the emergency medical dispatchers surveyed revealed that the acts of receiving and giving social support for stressful interactions were equally significant predictors of well-being (Shakespeare-Finch et al., 2015). Andersen et al. (2015) acknowledged the impact of not training at-risk employees in techniques and benefits of peer and self-care, noting 35.5% of the officers surveyed had no prior training nor mention of the subject. Furthermore, 39.4% of the participants expressed that training was the preferred method of learning how to assist or recover from the after-effects of traumatic events (Andersen et al., 2015).

Individual strategies. As mentioned, the individual CSI determined the coping strategy to apply dependent upon the critical incident, prior experiences, knowledge, and personal impact. Members of some law enforcement and emergency response agencies responded to the tragedy with humor. Humor acted as a form of protection of emotional resources (within the conservation of resources) applied to combat the potential repercussions of appearing weak (Park et al., 2014). Humor also appeared among the frequent strategies at tragic scenes as an aspect of organizational culture (Craun & Bourke, 2014; Craun & Bourke, 2015; Gayadeen & Phillips, 2015). Humor, in social research of public safety professionals, was called *dark humor* or *gallows humor* and had not proven effective or demonstrative of reducing perceived stress (Craun & Bourke,

2014). Craun and Bourke (2014) also reported that gallows humor had boundaries, regarding the victim, and unaccepted use was a sign of desensitization. In the study of the correlation of two types of humor (light joking and gallows/dark humor), Craun and Bourke (2014) surveyed 508 sworn and civilian internet crimes police personnel and found that lighthearted humor was effective for building bonds and reducing secondary traumatic stress. In the 2015 study of humor at the expense of the victim, Craun and Bourke further confirmed earlier findings, adding that gallows humor had an opposite effect on perceived stress for the same group of participants as the 2014 study.

Humor, as a coping mechanism, reduced the effects of exposure to traumatic stress. Sliter, Kale, and Yuan (2014) examined the relationship between coping, PTSD and the application of humor among seasoned firefighters. Reported stress and symptoms of PTSD were prevalent among the respondents who reported minimal coping through humor (Sliter et al., 2014). Length of service for the respondents in the study was a limiting factor, as coping strategies and frequency of exposure to trauma may have influenced the frequency of humor used, and alternate coping mechanisms were not examined within the study. Identification and use of functional coping mechanisms were associated with multiple factors including training, prior experiences, frequency of exposure, length of service, and availability of support. Humor acted as a form of social support and, through personal reflection, acted in the manner of self-care. In the qualitative examination of how humor functions within CSIs, Vivona (2014) shared that humor was inserted by experienced CSIs as a way of buffering the visible stress among novice CSIs and also as a way of testing fortitude for the duties of the position. In the

current study of CSI perceptions of organizational support, length of service and various coping strategies, including humor, were assessed within the bracket of mechanisms for stress prevention and intervention.

To supplement social support or traverse the lack thereof, self-care appeared among the recommendations in studies of vicarious traumatization within public safety positions (Grawitch et al., 2014; Kurtessis et al., 2015; Pack, 2014). In efforts to assess the effectiveness of self-care in social workers, specifically, *trauma-informed self-care* (TISC), 104 child welfare managers and supervisors responded to a survey (Salloum, Kondrat, Johnco, & Olson, 2015). TISC referred to the understanding and recommendations for treatment of the potential effects of trauma exposure, direct and indirect. Hierarchical multiple regression analysis was applied to data from the *Professional Quality of Life* (ProQOL) scale and questions derived from the applied training guide with coping suggestions included (Salloum et al., 2015). The study revealed that length of service in a high-risk occupation had a greater influence on burnout, and continued training and support were needed, though more important for many in the earlier stages of the social work career (Salloum et al., 2015). One limitation of the study was the absence of empirical data on self-care effectiveness, noted by the authors, and encouragement for future studies of other at-risk occupations was given (Salloum et al., 2015). Limited prior studies on self-care affected the reliability of the data generated in the study, yet the data revealed the significance of access to training on options for coping strategies in an understudied population. The provision of options for coping with frequent exposure to trauma for CSIs had little attention in research although

the potential impacts for neglect of critical incident wellness produced global awareness for occupational mental health. Proactive organizational input on mental health reflected the need for policy changes (Middleton & Potter, 2015).

The literature offered other suggestions for self-care such as leisurely activities, hobbies, family time, exercise, meditation, and yoga, seeking spiritual support, and seeking professional counsel using techniques such as behavioral monitoring and EMDR therapy (Carriere, 2014; Vrklevski & Franklin, 2008). EMDR stands for Eye Movement Desensitization and Reprocessing which acted as an intervention method of reprogramming negative stress-related thoughts and memories with new associations (Carriere, 2014). Carriere (2014, p.190) shared that the social stigma of psychological stress, difficulties in diagnoses and recognition, limited services, and the "lack of understanding among policymakers," had a worldwide connection to the statistics of mental health disorders. Self-care within occupations continually interfacing with trauma was essential and the current study sought to report awareness of various options for stress intervention and reduction.

While the focus of the Carriere (2014) study was to measure the perceived organizational support for the vicarious traumatization of CSIs, other outcomes such as desensitization, cynicism, and burnout may have occurred as a result of occupational stress. Additional factors contributed to the mental well-being of research participants. Gender-related responses to trauma, through an emphasis on emotional exhaustion, was examined by McCarty (2013); discriminatory abuses from the public and supervision were the focus of studies by Menard and Arter (2014) and Wilson and Wilson (2014);

and personality differences, as examined by Delahaij & Van Dam (2015), Drummond, & Brough (2015), and Kaur et al. (2013), each of which related findings to perceived organizational support. Conversely, Evans, Pistrang, and Billings (2013) interviewed 19 police officers on the variations of social support received after traumatic incidents. Not all who were exposed to trauma experienced psychological stress, yet many had expressed the lack of support as a contributor to PTSD (Evans et al., 2013). Length of service and frequency of exposure tended to "harden" participants from the influence of traumatization, as a mechanism of self-preservation (Evans et al., 2013). Where some expressed caution in speaking on the impact of traumatic scenes, others talked through the stress with select listeners, and most participants found formal support (debriefings and mandated counseling) to be highly unsupportive and suspicious, lacking the needed confidentiality (Evans et al., 2013). Unsupportive leadership also was found to influence symptoms of PTSD within nearly half of the participants; however, the study findings were limited for generalizability due to the exclusion of organizational culture factors and personal trauma experiences. In soliciting CSI responses, the variable of supportiveness was addressed through the determination of availability of intervention resources and the assessment of seeking support as a coping strategy.

Studies Related to Research Questions

Literature directly related to the research questions of the current study was explored in this section. The variable of perceived organizational support as related to frequent trauma exposure, availability of stress resources, and employment status was specifically identified in past studies. In regard to the primary research question of

availability to resources for critical incident stress intervention, Grawitch et al. (2015) determined the significance of having access to sufficient resources to meet individual needs. The work-based resource effectiveness depended upon the frequency of intervention use and the availability of alternate resources, in conjunction with additional factors such as personality, health, and non-work demands (Grawitch et al., 2015). Andersen et al. (2015) recommended formal education as a preventive maintenance measure for educating employees on the potential effects of critical incident stress. Papazoglou and Andersen (2014) promoted education for enlightening officers on stress and the impact of unaddressed psychological effects, while recognizing the stigma associated with seeking assistance. Ma et al. (2015) and Tucker (2015) examined police for the impact of stress with mediating resources, both reinforcing the need for additional study. Although civil servants and police were subjects for the studies mentioned, CSIs and the local receivers of CSI services may have benefited from the inclusion of stress reduction resources and the tentative impact on perceptions of organizational support.

As explained, law enforcement officers were the subjects of multiple studies examining critical incident stress and mechanisms for coping and support. Habersaat et al. (2015) explained that perceived stress was directly correlated with perceptions of support. Internal social status among the varying divisions offered ranges of trauma exposure frequency and psychological maladjustment. Unfortunately, dissemination of data from prior studies to encourage policies for work-based support, such as training and post-trauma intervention by supervision or peers, was poor (Habersaat et al., 2015). Ma et al. (2015) suggested that responses to stress were specific to the individual and to the type

of trauma experienced, requiring different levels of organizational support. Several studies confirm a lack of dependable work-based support for critical incident stress (Clark et al., 2015; Roach et al., 2016; Shoji et al., 2015). Though law enforcement stress was acknowledged and justified organizational responsibility for support, little attention was given to identify the inclusion and effect of critical incident stress among civilian CSIs.

In the study of CSI resiliency, a probationary period had been assigned to novice CSIs (Miller et al., 2017) as a method of training and proactive observation for critical incident stress. Tucker (2015) measured reluctance among police for seeking stress services, and CSIs may have experienced similar hesitance in the diagnosis of psychological distress related to crime scene work. Civilian CSIs have represented a subculture within law enforcement, bordering the investigative presence of sworn personnel, yet limited in the debriefing and psychological assessments required by some law enforcement agencies for their sworn. McCarty and Skogan (2013), in the exploration of burnout in policing, found the reporting of work-related stress between sworn and civilian to be similar. The determination of employment status significance as civilian or sworn, in regard to POS, provided information for law enforcement agency policies on critical incident stress prevention.

The frequency of exposure to traumatic events was identified as a factor contributing to POS. Carriere (2014) promoted preparedness as an intervention on the impact of frequent exposure. As exposure to trauma continued for the CSI, the development of coping strategies to block the effects of psychological distress became

necessary. Clark et al. (2015) presented the exploration of a critical incident and cumulative trauma of the POS of CSIs. The current study expanded upon the results of the study by Clark et al. (2015), which incorporated the influence of available interventions and support resources.

Studies Related to Research Methodology

Quantitative, qualitative, and mixed methods each had been applied to the research on perceived organizational support in occupations exposed to critical incident trauma. Several qualitative studies demonstrated thematic content analysis from interview data collected from emergency medical dispatchers (Minnie et al., 2015), rape crisis advocates (Houston-Kolnik et al., 2017), police (Elntib & Armstrong, 2014; Huey & Kalyal, 2017), and CSIs (Kelty & Gordon, 2015; Miller et al., 2017; Sollie et al., 2017). A statistical investigation had been the most common style of data analyses for police studies involving stress. Surveys had been distributed to police by Ellrich, 2016; Miller et al., 2017; Rose & Unnithan, 2015; and Tucker, 2015. Statistical studies engaging with CSIs were performed by Clark et al., 2015; Leone and Keel, 2016; Ludwig et al., 2014; and Yoo et al., 2013.

Correlation analyses were commonly applied as a primary component of several studies on the strength of the relationship between the variables associated with police personnel stress and POS. Chopko et al. (2015) found a non-significant correlation between police PTSD and length of service and alternately found that agency size was a contributing factor. Roach et al. (2016) applied correlation analysis in the study of homicide investigators' responses to child death scenes. Child homicides received greater

emotional responses than adult homicides, requiring options for organizational support (Roach et al., 2016). Caesens, Marique, Hanin, and Stinglhamber (2016) identified a correlation between POS and proactive behaviors, noting the feelings of obligation for reciprocity to explain the causal relationship. Correlation analysis was applied to the current study to evaluate the relationship between employment status, gender, and level of education, and POS.

Correlation analyses through regression were applied to the survey data within police and CSI studies. In the study of factors influencing the use of stress prevention services, Tucker (2015) utilized regression to develop four models of variable combinations. Boateng (2014) applied regression analyses to the cross-sectional survey of POS as a predictor of police perceived effectiveness, finding a positive association as well as a connection to organizational commitment. Burnett, Chiaburu, Shapiro, and Li (2015) examined POS and employee effectiveness through regression analysis, determining that an overabundance of organizational support reduced POS. In the studies here, regression was utilized to show statistical significance in the amount of variance in the dependent variables, while incorporating additional variables. In the current study, I applied regression analysis to examine the level of influence length of service, exposure to trauma, and level of education have on perceptions of organizational support. Linear regression was used to determine which independent variables influence CSI perceived organizational support.

Summary and Conclusions

In this chapter, the prior studies were reviewed for the foundational basis of perceived organizational support (POS) in relation to occupational stress within multiple fields. Immersion into the theoretical framework for this study yielded an abundance of literature regarding law enforcement personnel and their experiences of critical incident stress and vicarious traumatization, coping strategies applied, and organizationally incorporated intervention programs. Law enforcement and other public service organizations worldwide have contributed to the extensive research literature review on POS in conjunction with occupational stress. Information was also gained from a review of the literature on the effects of frequent exposure to critical incidents for civilian law enforcement support personnel including CSIs, dispatchers, transcriptionists, computer forensic examiners, as well as sworn positions.

Researchers have consistently noted correlations between frequent exposure to critical incident stress and POS in law enforcement positions. The research of Clark et al. (2015), McCarty and Skogan (2013), and Miller et al. (2017) justified the importance of understanding how trauma affects POS. Studies incorporating length of service as a variable of stress and POS have received mixed results of significance (Boateng, 2014; Madden et al., 2015; Minnie et al., 2015; Rose & Unnithan, 2015). Few studies examining the impact of critical incident wellness, tenure and POS of CSIs were published. The influence of employment status as sworn or civilian had little attention in studies of law enforcement POS. Alderden and Skogan (2014), Kelty and Gordon (2015), and McCarty and Skogan (2013) examined civilianization of law enforcement agencies

and found overlapping stressors associated with position, duties, and organizational responsibility, yet limited specificity regarding civilian CSIs. Kelty and Gordon (2015, p. 287) promoted the adjustment of hiring practices for CSIs to "identify individuals who are more resilient and less at risk of developing psychological injury." Finally, several resources have recommended the inclusion and support of stress prevention education and services for exposure to critical incidents (Andersen et al., 2015; Clark et al., 2015; O'Keefe, Brown, & Christian, 2014; Roach et al., 2016).

Prior studies have reinforced the lack of attention and positive change for law enforcement wellness. The research revolved around wellness to encompass the total health of employees, without addressing the effectiveness of services such as CISM and EAP. While studies of sworn wellness were limited, CSI wellness had barely found a place in research. The purpose of the current study was to fill the gap in the literature on civilian CSI perceptions of organizational support with regard to the availability of critical incident resources. By assessing the existence and use of agency resources for critical incident wellness in conjunction with the frequency of exposure to traumatic scenes, law enforcement agencies have validation for the psychological needs of the CSI. Identification of employment status as sworn or civilian also illuminated any variance in agency positions for inclusiveness and tracking for the effectiveness of stress management and vicarious trauma support.

This chapter first examined the theoretical frameworks of perceived organizational support and organizational responsibility for intervention program incorporation. Key variables of the study (employment status, frequency of traumatic

event exposure, gender, and the availability and use of intervention services) pertaining to perceived organizational support were explored in prior research. The literature reviewed also included studies of traumatic stress experienced by social workers, healthcare fields, first responders, and forensic personnel. The chapter also provided details of previous research highlighting the gap in the literature. The research questions seeking levels of influence between the noted variables and perceived organizational support were addressed through a statistical analysis of data to be collected from Florida CSIs by secured electronic survey distribution. The following chapter explained the methodology for the study, a non-experimental design that applied regression analyses to show if employment status, frequency of trauma exposure, level of education, gender, and availability of intervention services were statistically significant to perceived organizational support among CSIs.

Chapter 3: Methodology

Introduction

The purpose of this study was to identify the association between organizational support for critical incident wellness and perceived effectiveness of job performance for civilian CSIs in Florida law enforcement agencies. This study explored the impact of the employment status of CSIs as sworn or civilian on POS regarding access to traumatic stress intervention resources. Prior studies, as described in Chapter 2, have confirmed the significance of education about psychological resources for law enforcement personnel in frequent attendance at traumatic events. Assessing the POS and perceived effectiveness of civilian CSIs through this study adds to the knowledge and policy enforcement for forensic discipline mental health and stress management.

In this chapter, I describe the methodology used to conduct this study, the statement of the research design and rationale for quantitative methodology followed, with a description of the population and sampling procedures applied. I discuss the steps for data collection, the survey instrument, and threats to validity in the examination of POS for CSIs and justify regression as the appropriate form of analysis for the current study.

Research Design and Rationale

Quantitative research has foundations of positivism in the quest for empirical data to support theories in social sciences (Rudestam & Newton, 2015). The phenomenon of vicarious traumatization has been studied as an occupational hazard with effects at varying levels among the range of social science positions, including those of healthcare

professionals, social workers, and first responders. Qualitative explorations for common themes have provided significant information on the correlation between vicarious traumatization susceptibility and coping in high-risk professions, such as rape crisis advocates (Houston-Kolnik et.al, 2017), police (Elntib & Armstrong, 2014), and CSIs (Sollie et al., 2017). Although themes of self-care and the lack of support have been generated, the sample sizes for the qualitative studies limited generalizability due to the location or agency-specific facets of the participants. The literature reviewed for this study established that survey data assessing perceptions of organizational support as influenced by the availability and use of occupational stress resources for CSIs was not applied. The determination of the significance of factors influencing CSI POS supported the use of a quantitative approach.

Quantitative research is defined as a measurable process of gathering information, often collected with a survey due to the "versatility, efficiency, and generalizability" of organized instruments (Bachman & Schutt, 2011, p. 205). In the current study, I applied an internet-based survey to explore the availability and use of traumatic stress intervention resources and the POS of Florida CSIs. The survey questionnaire, which incorporated demographic information and self-reported data, was accessible to CSIs in Florida law enforcement agencies for a period of 14 days. The time period of 14 days should have allowed for days off, vacations, and shift rotation, as well as possible low-volume hours during shifts, to complete the brief survey. An extension of 20 days was allotted to reach the target sample after the initial data collection period passed.

Methodology

Population

The target population included members of law enforcement agencies who acted in the capacity of CSI or similarly titled position and were employed as a CSI for no less than 1 full year. As of 2018, no database had been developed and distributed among the forensic community to identify the quantity of CSI or forensic personnel positions in individual states of the United States. The Sourcebook of Criminal Justice Statistics has given a general record of law enforcement employees throughout the United States for nearly four decades (University at Albany, 2013). The 2011 sourcebook record indicated a ratio of 3.4 full-time law enforcement employees for every 1,000 inhabitants, for a total of 32,439 employees in the combined East, South, and Central Southern states (University at Albany, 2013). Unfortunately, neither the sourcebook nor the Bureau of Justice Statistics and FBI Uniformed Crime Reports offered a definitive record of specific positions within agencies (Bureau of Justice Statistics, 2017; Federal Bureau of Investigation, 2017).

Sworn and civilian CSI personnel were solicited within Florida law enforcement agencies, including persons with membership in the FDIAI, associated agencies within the Florida Sheriff's Association, and municipal agencies. The Florida Sheriff's Association alone included 67 sheriffs' offices, with ranges of CSI personnel quantities from zero to over 30, based on FDIAI conference attendance estimates for 2016. With an approximation of 500 CSIs and a 90% level of uncertainty, the estimated target size was 60 respondents, based on the SurveyMonkey sample size calculator applying a 10%

margin of error (SurveyMonkey, 2018). Also, G*Power software power analysis recommended a sample size of 88 for a 90% level of uncertainty and a medium effect size of 15%. Alternatively, the common estimate of sample size was 10–15 cases per variable (Field, 2013). Having applied the common estimate to the eight variables of the current study, 80 to 120 participants would have provided significant data. I sought to achieve a target sample of 120 participants to represent the estimated Florida CSI population.

Over 500 crime scene registered members were listed in the 2017 FDIAI directory, which composed the targeted population. I distributed the survey via e-mail to each member individually. Based on the member listings, 105 law enforcement agencies across the state of Florida were represented. Recipients completing the survey formed the sample for data collection.

Sampling and Sampling Procedures

Self-reporting is the commonly used method of attaining survey information for law enforcement employees. Although social bias is a limitation in self-reported data, (Jacobs et al., 2014; Masal & Vogel, 2016), sample size and significance of the data counter the potential impact of social desirability bias (Hao et al., 2015; Ma et al., 2015). Shakespeare-Finch et al. (2015) found self-reporting to be more viable and accurate for the variables examined in a study of the well-being of emergency medical dispatchers.

The CSI community in Florida was selected due to the significant number of persons associated with crime scene investigation, as the FDIAI represented a membership of 1,158 within the 13 disciplines comprising the International Association

for Identification (FDIAI, 2017). A total of 503 FDIAI members were registered in the crime scene discipline of the 2017 directory. Additionally, according to the FBI UCR (2018) for January through June 2017, 12,597 violent crimes were reported among the population of 4,703,713 in Florida. The population recorded represents cities with over 100,000 citizens and violent crimes outside these cities were not included here. The violent crimes reported include murder, rape, robbery, and aggravated assault (FBI, 2018), many of which involved CSI services. Recognition of the frequency of trauma exposure for CSIs was the precept for training guidance and policy decisions for critical incident stress management.

Procedures for Recruitment, Participation, and Data Collection

Once approved by the Walden University Institutional Review Board (IRB), the data for this study were collected from participating CSIs through electronic submission of the researcher-organized survey instrument. The survey instrument consisted of 26 questions of varying response types. Following the completion of the voluntary survey, responses entered were imported into a data set for SPSS Version 23 analyses. The information collected was maintained securely, with no agency or personal identifiers, for a period sufficient for analyses and adherent to IRB standards. An appreciation statement was visible on the completion and submission of the survey. Researcher information was written on the informed consent and survey closing statement for participants interested in additional information.

The target sample of the CSI population was obtained through purposive nonprobability sampling. Members of the FDIAI operating in the crime scene discipline

primarily comprised the sampling frame and were invited to participate in the study through e-mail. A statement of the study purpose and informed consent were shared, outlining the criteria for participation, the absence of incentives, and the voluntary nature of the study. The survey instrument was accessible following acknowledgment of the criteria and the informed consent statement. I obtained a letter of permission from the FDIAI executive board granting distribution of the survey instrument for this study. In an e-mail to crime scene members from the FDIAI directory, I provided a statement of organization permission and general information about the study in the notice of informed consent. E-mailed recipients had the option to participate or to decline participation. Recipients gained access to the survey link through GoogleDrive. Ten days after the initial distribution, reminder e-mail messages were sent to further encourage participation. The survey was accessible for a period of 34 days to allow for e-mail retrieval delays due to workload, absence, vacation, or other obstacles. No e-mail addresses were retained after the conclusion of the survey collection period.

As a secondary means of reaching potential participants, members of three Florida law enforcement agencies with CSI personnel unaffiliated with the FDIAI were invited to participate in the study through e-mail. Letters of cooperation from three Florida law enforcement agencies were obtained. I also recruited by sharing invitations among the network of Florida crime scene professionals connected on the LinkedIn social media website. LinkedIn offers registered members the opportunity to connect and network with professionals on a worldwide platform, allowing communication within established groups and personal associations. Individuals within my network were invited to

participate in the study through a post on the site. The LinkedIn invitation included a statement of the study purpose outlining the criteria for participation, the absence of incentives, and the voluntary nature of the study. Individuals interested in participating were issued the informed consent letter and survey link directly. I initiated no further communication regarding the study via LinkedIn.

Participants were encouraged to share the survey among the CSI community for additional snowball sampling. E-mail distribution of the survey instrument allowed a greater distribution to the population and internet administration afforded efficiency in data collection and analyses. E-mail submission of responses also granted anonymity for the participants, as no personal identifying information was maintained. No limitations for age, gender, race, or tenure were in place for voluntary participation in the study.

Survey rates of response have been a concern in research, as response impacted the generalizability of results. Phillips, Reddy, and Durning (2016) offered methods for addressing nonresponse to survey data collected by explaining types and causes for limitations in participant survey completion. Alexander (2018) also discussed nonresponse to surveys in relation to demographic characteristics. Both studies determined that *item nonresponse* (skipped or "don't know" responses) and *unit nonresponse* (skipped sections or non-participation) impacted conclusions due to a potentially inaccurate representation of the population (Alexander, 2018; Phillips et al., 2016). To combat item and unit nonresponse in the current study, the online survey was brief, with instructions for ease of submission and I submitted two reminder e-mail messages. No submitted survey was disregarded. Depending upon the number of

incomplete surveys or nonresponse to specific questions, results were presented to reflect percentages of response and nonresponse options.

Instrumentation and Operationalization of Constructs

I organized the survey instrument for the current study as a combination of modified versions of the Survey for Perceived Organizational Support, Education about Trauma and Health survey, and demographic inquiries. The survey instrument was reviewed by members of the executive board of the FDIAI who had extensive experience in crime scene investigation and evidence examination. The 2018 FDIAI reviewers recommended the inclusion of questions to incorporate the total length of forensic service and the number of agencies employed as a CSI. The justification for the inclusion was that respondents may have cumulative stress and responses would represent critical incident exposure from varying work-related sources.

The survey instrument for this study included seven demographic questions describing the background of the participant. Employment status, gender, age, years of education, length of service, and the number of agencies worked helped to define the target population. The region was requested to determine the statewide representation of CSIs. Eight statements were presented to allow participants to rate perceived organizational supportiveness based on a zero to 10 scale. Participants were also be asked to estimate the frequency of stress management resource application and work performance impact. I assessed perceived effectiveness through six statements requesting a zero to 10 scale rating of job component influence. Frequency of exposure and stress

management training were also requested to assess experiences. Table 1 displays the survey questions associated with each of the variables.

Table 1

Variables and Associated Survey Questions

Variable type	Variable	Survey questions
Dependent variable	Perceived effectiveness	19–24
Independent variable	Perceived organizational support	8–15
Independent variable	Training received	26
Independent variable	Frequency of exposure	25
Covariate	Employment status	1
Covariate	Gender	2
Covariate	Years of education	3
Covariate	Age	4
Covariate	Length of service	5, 6

Note. Region of employment, protocol, use of resources, and days impacted acted as control variables.

Published scales. Select questions from two published surveys were combined with demographic inquiries to develop the survey instrument. Permission was granted for the modification and use of scales previously described in Chapter 1. The original education about trauma and health survey was comprised of 43 questions varying in response type and was completed by 1,330 Finnish police, constables, and cadets in varying agencies to establish strategies for psychological and physical health among police. The education about trauma and health survey contributed data, in a modified form, on exposure to stress management resources. Responses for the education about trauma and health survey and demographic questions were in a combination of applicable selection and discrete quantity to present age, education, length of service, and affiliated

agencies. Participants rated the influence of job-related factors associated with perceptions of effectiveness.

The SPOS developed by Eisenberger et al. (1986) had been validated and utilized in studies of organizational support for a wide array of disciplines and occupations, including education, healthcare, and law enforcement. Eisenberger et al. (1986) examined the responses of 361 employees from varying occupations for the global nature of POS. The reliability analysis of the SPOS determined a Cronbach's alpha of .97 (Eisenberger et al., 1986). The secondary study of the absenteeism of 97 teachers as a result of POS established a reliability coefficient of .93 for the SPOS (Eisenberger et al., 1986). In the current study, the CSI was asked to respond to the statement, "My law enforcement agency really cares about my well-being" from the SPOS. Statements regarding the CSI opinion of organizational investment in well-being were inseparable from general POS, according to Tucker (2015), therefore POS reflected all manners of support. A scale of 0 – 10 was offered to rate the level of support experienced for the POS questions.

Study variables. I used a quantitative approach to examine the relationships and levels of influence between variables. Perceived organizational support, frequency of critical incident attendance, and training in work-based traumatic stress management served as independent variables. Length of service, age and education functioned as covariates. Measurement of the independent variables aided in predicting the perceived effectiveness of job performance of the CSI participants. The variables, type of measurement, and options for responses are listed in Table 2.

Table 2

Variables of the Study

Variable type	Variable	Type	Potential response
Dependent variable	Perceived effectiveness	Continuous	0–10 rating
Independent variable	Perceived organizational support	Continuous	0–10 rating
Independent variable	Training received	Continuous	Discrete value
Independent variable	Frequency of exposure	Continuous	Ranges of years
Covariate	Employment status	Categorical	Dichotomous
Covariate	Gender	Categorical	Dichotomous
Covariate	Years of education	Continuous	Discrete value
Covariate	Length of service	Continuous	Discrete value

Note. Region of employment, protocol, use of resources, and days impacted acted as control variables.

POS is a mechanism used to measure employee opinion of how the organization responds to individual work-related needs, problems, or accomplishments. POS was most commonly utilized as the independent variable in research (Boateng, 2014; Gillet et al., 2012; Marchand & Vandenberghe, 2016; Neves & Eisenberger, 2014). POS was also examined as the outcome in significant studies including the Kim et al. (2016) study of perceived organizational commitment and Miller et al. (2017) study of the influence of secondary traumatic stress on POS and perceived supervisor support. Additionally, POS served as the independent and dependent variables in the Mohamed and Ali (2015) study of organizational justice, POS, and job performance.

In the current study, I presented the region of employment, incident protocol, use of resources, and days impacted as control variables in order to specifically examine the relationships between the above independent and dependent variables. The types of

crimes and agency sizes for participating CSIs were extraneous variables due to the indeterminable differences each agency maintained, including area populations, crime trends, budgetary constraints, and staffing.

Data Analysis Plan

The current study was a quantitative analysis of survey data obtained from CSI personnel within Florida law enforcement agencies. I collected data through survey participation and entered responses into a Microsoft Excel spreadsheet generated through Google Drive. Excel data was then transferred into a data set for SPSS version 23 analysis.

Research Questions and Hypotheses

RQ1: Did organizational support for critical incident wellness, frequency of exposure, and stress management training received influence civilian CSI perceptions of job effectiveness?

$H1_0$: Civilian CSI perceptions of effectiveness were not influenced by organizational support for critical incident wellness, frequent exposure to trauma, and training received.

$H1_a$: Civilian CSI perceptions of effectiveness were influenced by organizational support for critical incident wellness, frequent exposure to trauma, and training received.

RQ2: To what extent did the frequency of trauma exposure, length of service, and education influence CSI perceptions of job effectiveness?

$H2_0$: Frequency of trauma exposure, length of service, and education did not affect CSI perceptions of job effectiveness.

$H2_a$: Frequency of trauma exposure, length of service, and education did affect CSI perceptions of job effectiveness

Descriptive statistical information was organized based on the demographic data collected from participants. Additionally, descriptive statistics of data for the components of POS, including frequency of exposure and quantity of stress management training was also tabulated in order to generate a rating of low to high POS. Andersen et al. (2015) primarily utilized descriptive statistics to identify correlations between degrees of stress, frequency of exposure and mental health among police.

Linear regression analysis was applied to examine the relationship between organizational support for critical incident wellness and civilian CSI perceptions of job effectiveness in $H1_a$. The equation was also used to determine the effect of each independent variable on perceived effectiveness. Frequency of exposure, length of service, and education were analyzed through linear regression for $H2_a$. The following equation was also used to determine statistical significance for each hypothesis:

Civilian perceived job effectiveness$_i$ = (b_0 + b_1 organizational support$_i$ + b_2 frequency of exposure$_i$ + b_3 training received$_i$ + b_4 length of service$_i$ + b_5 education$_i$) + ε_i

Threats to Validity

Threats to validity are the factors that may discredit the study findings associated with causality and generalizability. The threat of population validity was addressed by extending the invitation for participation to all crime scene personnel currently employed

with or retired from a Florida law enforcement agency. Respondents fulfilling the criteria of employment for a minimum of one full year represented the targeted population. Although types of crimes attended and volume of cases handled varied, the general duties of the CSI included scene documentation and evidence collection, which required exposure to criminal and often tragic events. To combat threats to internal validity, such as subject mortality and fatigue, a cross-sectional design was used to alleviate the passage of time as a factor. A single submission per participant was acquired to eliminate changes in behavior as well. The independent variable of the employment status of civilian or sworn was collected from one sub-group within the law enforcement community, eliminating selection as a threat to internal validity.

Social desirability bias, as an effect of self-reporting, was a threat to construct validity. In an effort to reduce self-reporting bias, the informed consent advised of the confidential, voluntary nature of the study. Honesty in reporting was encouraged and participants were able to withdraw from the survey at any time. Also, the use of published scales limited the threats of content validity and researcher bias within the survey instrument. The published scales incorporated in the survey instrument were validated by the respective authors. The inclusion of Likert-type ratings for the dependent variable of perceived organizational support was expected to demonstrate adequate sensitivity between the response options to determine any reported differences.

Ethical Procedures

This study investigated the perceptions of organizational support from human participants employed as CSIs. After receiving approval from the Walden University

Institutional Review Board (IRB), informed consent with an explanation of the purpose of the study was available to participants and their respective law enforcement agencies. The survey instrument represented a combination of questions from two published surveys that were validated for use in varying public service fields. Demographic inquiries were included in the survey for a descriptive portrait of the participant pool. No monetary or benefit incentives were offered or given for confidential voluntary participation in the study.

The FDIAI allowed members to access the directory for distribution and collection of information. The FDIAI director and CSI members were contacted through e-mail communication obtained from the directory, which included member discipline and e-mail address. A link to the online survey was included in the e-mail communication and accessing the link denoted consent. Participants were not contacted upon the final submission of internet survey responses. A paper copy of the survey was made available on request yet none were requested. Data collected from the survey was confidential and secured in my possession.

Summary

A quantitative research design was applied to examine the effects of employment status and perceived organizational support (POS) for critical incident wellness and the effectiveness of job performance among CSIs. The strength of the relationships between education, frequency of exposure, length of service, and job effectiveness was also measured. CSIs within the FDIAI were invited to participate in the online survey, containing demographic questions and components of published scales. The methodology

for this cross-sectional quantitative study with intended statistical analyses was presented in Chapter 3. Multivariate linear regression analysis was used to test the hypotheses to determine relationships between the independent and dependent variables of the study. The results of the data collection and analyses are presented in the following chapter. After results have been presented, I state findings and recommendations for prospective research.

Chapter 4: Results

Introduction

Although civilian and sworn CSIs have experienced vicarious trauma, organizational resources for critical incident wellness are accessible and used at varying rates. The purpose of this study was to examine how CSIs' perceptions of organizational support were associated with factors contributing to performance effectiveness. The survey responses from Florida crime scene personnel provided perceptions of organizational support and effectiveness. The association between demographic characteristics and POS are discussed in this chapter. Finally, an analysis of the influence of factors establishing perceived organizational support, tenure, education, and trauma exposure on perceived effectiveness are reported.

The analyses of the data collected in this study assessed organizational support hinged on the three subcategories of (a) fairness, (b) supervisory support, and (c) organizational rewards and job conditions. The subcategories were comprised of the following eight parameters: (a) financial compensation, (b) increased salary, (c) provision of equipment, (d) personal assistance, (e) education incentives, (f) supervisor pride, (g) supervisor concern, and (h) critical incident stress training. Based on responses to POS, influence on perceived job effectiveness was measured. This chapter describes the data collection process and procedures, and presents the results of the data analysis applied to focus on the influences of POS and work-based trauma exposure. The research questions are further defined as they itemize stress management training and demographic characteristics of CSIs. The findings based on the hypotheses are also given.

Data Collection

The 2017 directory of the FDIAI provided a listing of 503 members in the crime scene discipline. With permission from the 2018 FDIAI president, I e-mailed the members a statement of invitation to participate in this study, including my informed consent letter and the Google Drive link to the electronic survey. Sixty-nine messages were returned showing the recipients as undeliverable, resulting in 379 e-mails purportedly received. After 8 days, a reminder message was e-mailed to 312 of the previously contacted members, once inaccurate spellings and organization e-mails were updated, and 25 were returned as undeliverable. A total of 354 FDIAI members potentially received the e-mailed invitation to participate.

Additionally, 84 members of the LinkedIn forensic community were sent an announcement of the study. Interested LinkedIn individuals replied for survey link access and my informed consent document. In order to achieve a greater response, the survey access was extended from 21 days to 34 days. After 28 days, an e-mail invitation was sent to the three consenting unaffiliated Florida FDIAI agencies and the LinkedIn announcement was reposted. A total of 438 individuals were directly notified of the study with encouragement to share the informed consent and survey link. The response rate for this study was 92 participants (21%). To maintain confidentiality, no e-mail addresses were retained; therefore, tracking participants, directly invited and snowballed, was not possible.

Question 1 requested the employment status of the CSI as civilian or sworn. Questions 2 through 7 asked for demographic information: gender, length of education,

age, length of service as a CSI, number of agencies having worked as a CSI, and region of the state of Florida represented. Questions 8 through 15 determined POS by rating eight aspects of support on a scale from zero to 10. Organizational support was established by averaging the responses to questions of financial compensation, salary increase, available help, supervisor pride, supervisor concern, provision of equipment, and critical incident stress training.

In Question 16, I requested whether the agency incorporated a protocol as a follow up for critical incident stress. Options for the availability of a critical incident protocol for stress management were mandatory, optional, and no protocol in place. Question 17 requested the number of days the respondent used work-based stress management resources and Question 18 signified the days that stress impacted work performance. Perceived effectiveness was determined by averaging the scaled ratings of the influence of six factors in Questions 19 through 24: salary, work environment, workload, recognition and praise, leadership, and agency policies. An estimate of the number of critical incidents attended within 1 year was sought in Question 25, and Question 26 solicited the number of days of stress management training received over the career of the CSI.

Discrepancies from the Plan Presented

A total of 92 participants provided survey responses during the 34 days of survey link access. Twenty-six questions were offered, generating a total of 2,392 response opportunities, and six responses were left unanswered. Due to a lack of clarity in the wording of Question 3 (length of education), participant interpretations were inconsistent.

To clean the responses for consistency, all numerical figures less than 12 were increased by 12 to compensate for standard high school years, as included by the majority of the participants, based on their associated ages. Subjects that responded with a text answer, such as *none* or *zero*, were converted to numerical values. In Question 17 (estimation of access or use of work-based resources), one respondent wrote "I was informed by the City that as a Civilian I do not have the same access to EAP as Sworn," which was converted to the numerical value of zero.

Four participants left the response to Question 25 (estimating the number of traumatic scenes attended over the last 12 months) unanswered. Although current employment status as active, former, or retired CSI was not requested, inclusion may have produced more consistent feedback. Alternatively, the question could have been worded to reflect the last year of CSI service.

Results

Descriptive Statistics

Demographic characteristics of the 92 CSI participants showed the composition of the sample based on the following descriptors: employment status, gender, education, age, length of service, and the number of agencies worked. Seventy-seven participants (83.7%) identified their employment status as civilian, and the remaining 15 participants (16.3%) identified as sworn. Sixty-six of the participants (71.7%) were female and 26 (28.3%) were male. Years of education ranged from high school diploma or equivalent (12 years) to continued education through graduate-level study or degrees (24 years). The largest group (31 participants, representing 33.7%) noted having 18 years of education,

indicating a possible minimum of a bachelor's degree. Four (5.5%) of the participants had 21 to 24 years of education, for possible doctoral degrees or professional certifications (see Table 3).

The sample ranged in ages from 24 to 72 years. The youngest 10 participants (10.9%) were between 24 and 29, which also mirrored the number of elder participants between 60 and 72. The largest age group, 30 to 39, had 28 respondents (30.4%). Years of service ranged from the minimum criteria of 1 year to 47 years. The largest group within the sample (24, for 26.1%) had worked between 1 and 5 years. Twelve participants (13%) had served as a CSI for 26 to 47 years. Participants recorded the number of agencies in CSI service as one, two, and three. A total of 57 (62%) participants have worked for one agency. The ranges of education, age, tenure, and region demonstrated that the participant sample was representative of the population of CSIs. Table 3 presents the frequency, range, mean, and standard deviation of demographic characteristics of the sample.

Table 3

Demographic Characteristics of the CSI Participants

Factors	Groupings	Frequency	Percentage	Range	Mean	*SD*
Employment						
	Civilian	77	83.7%			
	Sworn	15	16.3%			
Gender						
	Female	66	71.7%			
	Male	26	28.3%			
Education				12–24 years	16.82	4.65
	12 years	3	3.3%			
	13 years	4	4.3%			
	14 years	12	13%			
	15 years	2	2.2%			
	16 years	22	23.9%			
	17 years	5	5.4%			
	18 years	31	33.7%			
	19 years	5	5.4%			
	20 years	3	3.3%			
	21 years	1	1.1%			
	22 years	3	3.3%			
	24 years	1	1.1%			
Age				24–72 years	44.23	11.68
	24–29	10	10.9%			
	30–39	28	30.4%			
	40–49	21	22.8%			
	50–59	23	25%			
	60–72	10	10.9%			
Tenure				1–47 years	13.79	10.01
	1–5	24	26.1%			
	6–10	19	20.7%			
	11–15	18	19.6%			
	16–20	10	10.9%			
	21–25	9	9.8%			
	26–30	4	4.3%			
	31–35	6	6.5%			
	36–40	1	1.1%			
	41–47	1	1.1%			
Agencies				1–3		
	one	57	62.%			
	two	27	29.3%			
	three	8	8.7%			

Note. n = 92

Florida is made up of 67 counties, which include over 300 law enforcement entities for county, municipal, college, state, federal, and tribal agencies. FDIAI membership is open to all active or retired individuals operating in a forensic capacity as a practitioner, consultant, supplier, educator, or student. The FDIAI is organized into six regions, for training and information dissemination, based on the needs recorded by state and national IAI leadership. All regions of the FDIAI were represented by the survey respondents. Table 4 shows the distribution of participants by region. Five participants selected "other," meaning that they worked as a CSI outside of Florida. The survey was circulated to FDIAI members as well as to the LinkedIn community, and participants were encouraged to share the survey with other CSIs. The snowball effect may have enlisted the input of Non-Florida CSIs. A map of the division of regions is displayed in Figure 1.

Table 4

CSI Respondent Distribution by FDIAI Region

Region	# of counties	n= # of civilian CSI respondents	n= # of sworn CSI respondents	Total
1	22	2	4	6
2	20	15	3	18
3	9	18	4	20
4	5	15	0	14
5	3	15	2	17
6	8	8	1	8
7	Outside FL	4	1	5

Note. n= 92

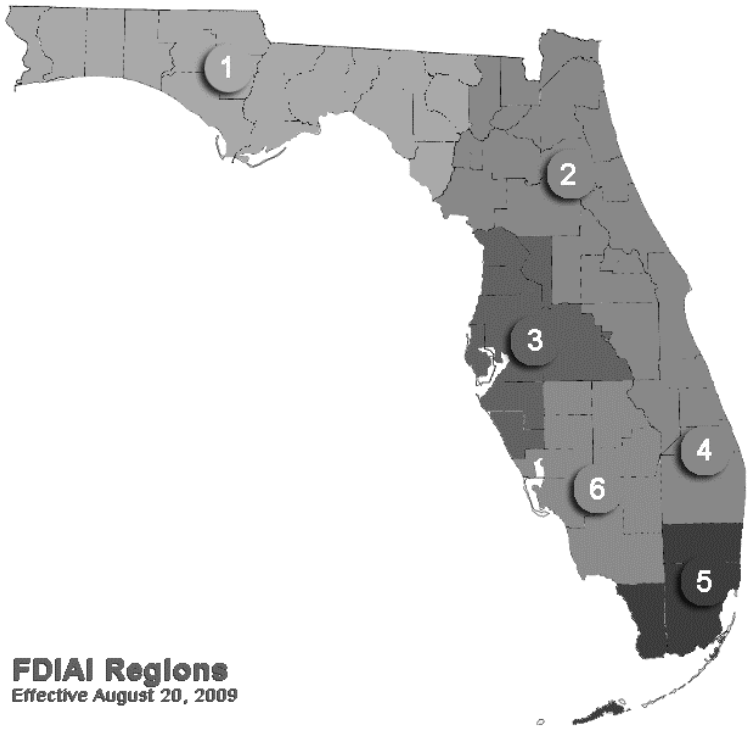

Figure 1. Map of FDIAI regions.

Research Question 1

To examine research question one, descriptive statistical examination was conducted to determine the frequencies of specific characteristics and to assess perception of job effectiveness based on the survey questions significant to critical incident wellness. I derived the levels of POS by assessing the responses to survey Questions 8 through 15. The Fairness component of POS was represented by Questions 8 and 9. Supervisory Support within POS was defined through the responses to Questions 10 through 12. Questions 13 through 15 characterized the Organizational Rewards and Job Conditions of POS.

Do organizational support for critical incident wellness, frequency of exposure, and stress management training received influence civilian CSI perceptions of job effectiveness?

$H1_0$: Civilian CSI perceptions of effectiveness were not influenced by organizational support for critical incident wellness, frequent exposure to trauma, and training received.

$H1_a$: Civilian CSI perceptions of effectiveness were influenced by organizational support for critical incident wellness, frequent exposure to trauma, and training received.

Questions 11 and 14 each had the highest ratings of 10. Question 11 rated whether "my supervisors are proud that I am a part of this organization," and 30% of the respondents rated at 10. Question 14 asked, "My law enforcement agency provides appropriate equipment to fulfill my duties," and 29% of respondents rated 10. Additionally, Question 9, rated if the organization found ways to cut costs, "it would consider increasing my salary," and 23% of respondents rated zero. Table 5 shows the frequencies and percentages of survey responses for POS.

Table 5

POS Component Survey Response Frequencies

Rating	Fin Comp 8	%	Inc Sal 9	%	Help 10	%	Supv Proud 11	%	Supv Cares 12	%	Edu Inc 13	%	Equip 14	%	CIS Train 15	%
0	1	1%	21	23%	3	3%	1	1%	4	4%	18	20%	0	0%	6	7%
1	2	2%	11	12%	1	1%	0	0%	1	1%	7	8%	0	0%	5	5%
2	9	10%	10	11%	1	1%	2	2%	5	5%	8	9%	4	4%	5	5%
3	9	10%	12	13%	7	8%	1	1%	4	4%	2	2%	6	7%	11	12%
4	6	7%	4	4%	3	3%	3	3%	4	4%	1	1%	3	3%	4	4%
5	10	11%	14	15%	10	11%	9	10%	8	9%	7	8%	2	2%	14	15%
6	9	10%	6	7%	8	9%	8	9%	8	9%	2	2%	9	10%	8	9%
7	15	16%	5	5%	12	13%	11	12%	11	12%	5	5%	13	14%	12	13%
8	15	16%	1	1%	18	20%	15	16%	17	18%	11	12%	14	15%	15	16%
9	9	10%	3	3%	11	12%	14	15%	12	13%	12	13%	14	15%	5	5%
10	7	8%	5	5%	18	20%	28	30%	18	20%	19	21%	27	29%	7	8%

Note. n = 92 for each POS component. Ratings for each component with the highest frequencies are in bold. FinComp refers to financial compensation; IncSal is increased salary; Help refers to agency assistance; SupvProud means supervisor is proud; SupvCares means supervisor cares; EduInc equals education incentives; Equip represents equipment; CISTrain refers to critical incident stress training.

Composite perceived organizational support (POS) was established by tabulating the individual averages for the scaled responses to eight questions from the modified survey of perceived organizational support (Eisenberger et al., 1986). POS was a reflection of the employee's views on how their employers valued them. Negative coding was not required for the POS survey questions in this study. The composite POS scores for respondents ranged from 1.625 to 10, with a reach from 0 to 10, displayed in Table 6. The mean score for the 92 respondents was 6.15, mode of 6.25, a median of 6.44, and a standard deviation of 3.8. Six participants (6.5%) scored a POS in the low to the very low level, between 1.65 and 2.75. A total of 42 respondents (45.6%) scored in the average to the mildly high level of POS. Seven CSIs rated POS in the high to very high range, 9.125 to 10. Table 6 displays the frequencies and percentages of POS ranges, and the corresponding levels of POS for the total sample of CSIs.

Table 6

Sample Perceived Organizational Support Scores and Frequencies

POS score ranges	Frequency	Percentage	POS level
1.65 to 1.75	2	2.2%	Very low
2.25 to 2.75	4	4.3%	Low
3.125 to 3.875	6	6.5%	Moderately low
4 to 4.875	15	16.3%	Mildly low
5 to 5.75	9	9.8%	Average/neutral
6 to 6.875	20	21.7%	Average/neutral
7 to 7.875	22	23.9%	Mildly high
8 to 8.75	7	7.6%	Moderately high
9.125 to 9.5	6	6.5%	High
10	1	1.1%	Very high

Note. n = 92

Table 7 displays the frequencies and percentages of each component of POS and the corresponding POS levels. The mean score for Fairness was 4.67, mode of 4, a median of 4.5, and a standard deviation of 2.32. The mean score for Supervisory Support was 7.19, mode of 10, a median of 7.67, and a standard deviation of 2.28. The mean score for Organizational Rewards was 6.17, mode of 6.33, a median of 6.33, and a standard deviation of 2.28. Twenty-one participants (22.8%) within the fairness component scored a POS in the low to the very low level. Twenty-nine CSIs (31.6%) in the organizational rewards component rated in the average/neutral range. A total of 28 respondents (30.5%) in the supervisory support component rated POS in the high to very high range, 9 to 10.

Table 7

Sample Perceived Organizational Support-Components Scores and Frequencies

POS score ranges	Fairness frequency	%	Supervisory support freq.	%	Organizational rewards freq.	%	POS level
0	1	1%	0	0	0	0	
1	9	9.8%	3	3.3%	4	4.3%	Very low
2	11	12%	2	2.2%	5	5.4%	Low
3	12	13%	4	4.3%	7	7.6%	Moderately low
4	17	18.5%	4	4.3%	11	12%	Mildly low
5	11	12%	13	14.1%	11	12%	Average/neutral
6	12	13%	9	9.8%	18	19.6%	Average/neutral
7	11	12%	14	15.2%	8	8.7%	Mildly high
8	2	2.2%	15	16.3%	18	19.6%	Moderately high
9	3	3.3%	19	20.7%	6	6.5%	High
10	3	3.3%	9	9.8%	4	4.3%	Very high

Note. n = 92

Civilian and sworn POS were both in the Average/Neutral level of the composite POS, with civilians (6.29) recording a little higher than sworn (5.46). Although fewer male CSIs (26) responded to the survey, the group reported a slightly higher average POS of 6.48, whereas females (66) reported 6.03. The years of education offered a broad range

of average POS from 2.25 (for one respondent with 21 years) to 7.83 (for three respondents with 22 years). CSIs 40-49 years of age had the highest average POS of 6.524, although all age groups maintained an average no lower than the 5.7125 for the 24-29 years of age group. Tenure was grouped in increments of five years and average POS increased almost directly with the length of service, where CSIs with 41 to 47 years rated an average POS of 9.125. Participants noted the number of agencies for which they worked and the eight CSIs with three agencies in their history rated an average POS of 6.672. The CSIs with one and two agencies in their history had similar but lower averages of 6.089 (1 agency) and 6.134 (2 agencies). Finally, the 18 civilian and 4 sworn CSIs in Region 3, representing ten counties of Central Florida, had the highest average POS of 6.881. All regions, as well as the participants outside of Florida, rated an average POS between mildly low and average. Table 8 shows the correlation between each demographic attribute and POS.

Table 8

Demographic Characteristics and Perceived Organizational Support

Employ	μPOS	Gender	μPOS	Educ.	Freq.	μPOS	Age	Freq.	μPOS	Tenure	Freq.	μPOS	Agencies	Freq.	μPOS	Region	Freq.	μPOS
Civ-77	6.29	Fem-66	6.03	12	3	6.58	24-29	10	5.7125	1-5	24	5.916	1	57	6.089	1	6	4.979
Sw-15	5.46	Male 26	6.48	13	4	6.0625	30-39	28	6.062	6-10	19	5.507	2	27	6.134	2	18	5.618
				14	12	5.76	40-49	21	6.524	11-15	18	6.236	3	8	6.672	3	22	6.881
				15	2	4.188	50-59	23	5.995	16-20	10	6.55				4	15	5.725
				16	22	6.659	60-72	10	6.4375	21-25	9	5.819				5	17	6.256
				17	5	6.675				26-30	4	6.1875				6	9	6.708
				18	31	6.072				31-35	6	6.4375				7	5	6.225
				19	5	4.675				36-40	1	7.375						
				20	3	7.67				41-47	1	9.125						
				21	1	2.25												
				22	3	7.83												
				24	1	4.375												

Note. n = 92. Highest average POS for each of the seven characteristics is in bold.

The frequency of exposure to trauma and stress management training received were estimated in Questions 25 and 26. Responses to the frequency of exposure to trauma ranged from 0 to 60 events in the past 12 months, with zero appearing most frequently (by 25 respondents). Frequency of trauma exposure is displayed in Figure 2.

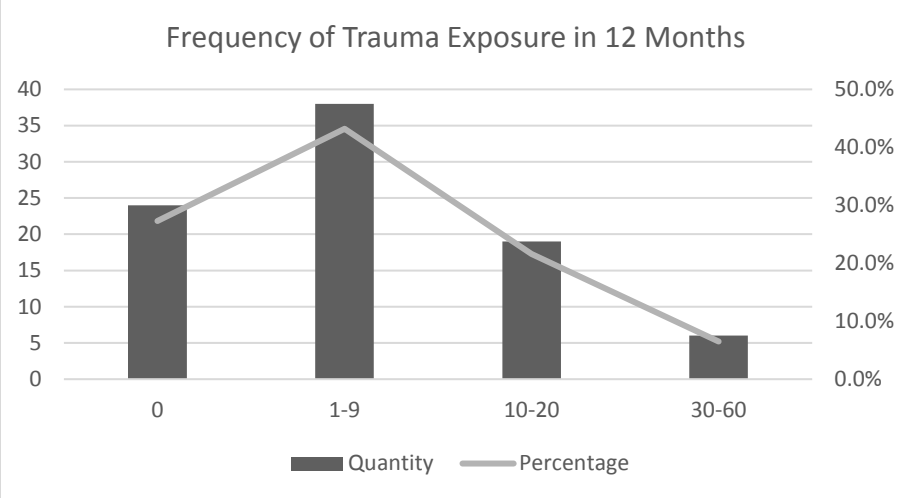

Figure 2. Frequency of trauma exposure events in 12 months as a CSI.

Estimates for training received throughout the CSIs' career ranged from 0 to 60 days, with zero appearing most frequently (by 31 respondents). Figure 3 displays the amount of stress management training that CSIs received over their careers. Half (50%) of the respondents reported having received 1 to 9 days of training.

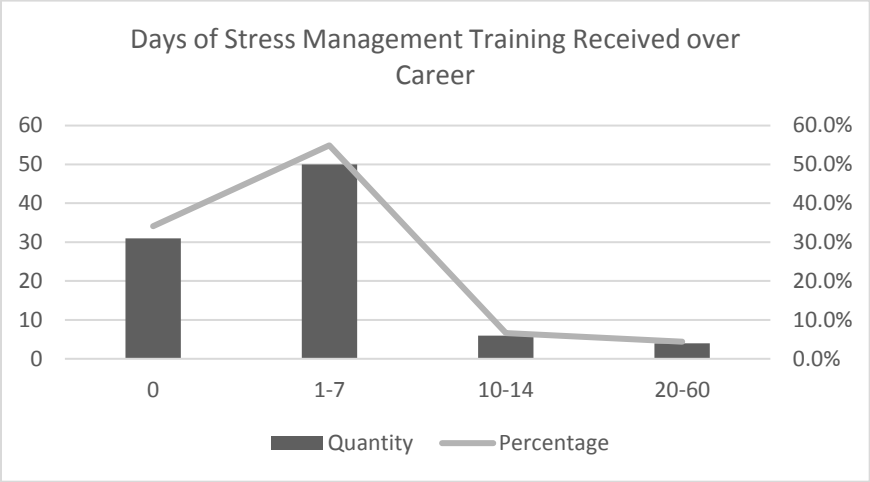

Figure 3. Days of stress management training received over the career as a CSI.

Although the lengths of service varied, the responses to training received and trauma exposure were similar. Respondents, on average, reporting a higher frequency of exposure (30 to 60 events), also collectively reported the greatest amount of training received (20 to 60 days). Respondents recorded an estimate of how many days critical incidents impacted work performance. Nearly half (47.8%) reported that they had not been impacted by critical incidents within the 12-month parameter. Figure 4 displays the frequency of performance impact.

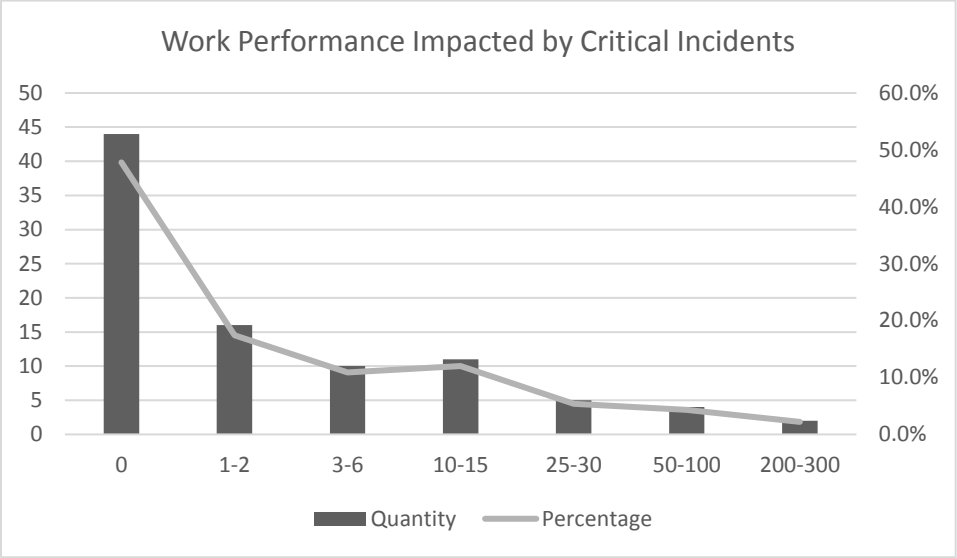

Figure 4. Estimated days that work performance was impacted by critical incidents.

Research Question 2

To examine research question two, the multiple regression equation was applied to include the length of service and years of education in relation to job effectiveness. Frequency of exposure to trauma was addressed in research question one.

To what extent do the frequency of trauma exposure, length of service, and education influence CSI perceptions of job effectiveness?

$H2_o$= Frequency of trauma exposure, length of service, and education did not affect CSI perceptions of job effectiveness.

$H2_a$= Frequency of trauma exposure, length of service, and education did affect CSI perceptions of job effectiveness

The results were obtained by assessing the values directly input by the participants. First, the examination of the independent variables of training, trauma exposure, POS as a composite variable, and covariates of education and tenure, was

conducted through linear regression analysis to identify the influence on perceived effectiveness, as a composite dependent variable. Secondly, POS was subdivided into the three components previously described as Fairness, Supervisory Support, and Organizational Rewards for an alternate regression output. Refer to Table 7. Thirdly, each independent variable and covariate along with the subdivided POS were assessed in relation to the dependent variable of perceived job effectiveness without the inclusion of the policies contributor. Perceived job effectiveness was comprised of six factors: salary, work environment, workload, recognition and praise, leadership, and agency policies. Through scrutiny of the correlation matrix for perceived effectiveness, it was determined that the rating for agency policies contributed the least to overall effectiveness. See Appendix D.

Multiple linear regression results. The following results represent the data analysis. Since POS for civilians and sworn CSIs ranged both as average/neutral and the number of sworn participants represented below 20%, the regression analyses incorporated the total participant POS. The linear regression output results for the model summary, ANOVA, and model coefficients were considered. The model summaries explained the proportion of the variance for job effectiveness as influenced by POS and other predicting variables of education, training, trauma exposure, and length of service. The model summaries are presented in Tables 9, 10, and 11.

Table 9

Model Summary, Demographics and Composite POS

R	R Square	Adjusted R Square	F Change	Sig. F Change
.336	.113	.056	1.98	.091

Note. Dependent Variable: Perceived Effectiveness (Sig. p< .05).
Predictors: Constant, Education, Training, Trauma Exposure, Tenure, and Composite POS.

Table 10

Model Summary, Demographic IVs with Separated POS

R	R Square	Adjusted R Square	F Change	Sig. F Change
.249	.062	-.029	.683	.705

Note. Dependent Variable: Perceived Effectiveness (Sig. p< .05).; Predictors: (Constant), Training, Tenure, Trauma Exposure, POSFair, POSSupv, and POSRew

Table 11

Model Summary, Demographic IVs with Separated POS and PerEff-policies

R	R Square	Adjusted R Square	F Change	Sig. F Change
.233	.054	-.037	.598	.777

Note. Dependent Variable: Perceived Effectiveness minus Policies factor (Sig. p< .05).
Predictors: (Constant), Training, Tenure, Trauma Exposure, POSFair, POSSupv, and POSRew

The model summary in Table 9 shows that the value was not significant at *p*= .091. Using *p*< .10 for exploration also was not significant, *p*= .354. Thus, years of education, POS, training received, frequency of exposure to trauma, and length of service as a CSI explain only 5.6% of perceived job effectiveness. Other factors that are not in the model explained 94.4% of perceived job effectiveness. When POS components were separated, as in Table 10, the independent variables explained the results by 6.2 %,

slightly reducing the contribution of factors not incorporated in the study (93.8%). The corresponding ANOVA for the aforementioned regression is displayed in Appendix A.

The results in Table 12 indicate the multiple regression constants (B) of the model equation. Table 12 further indicates the Beta constants of the multiple regression model equation.

Table 12

Model Coefficients for Independent Variables with Composite POS

	B	Beta	Sig.	VIF
(Constant)	3.584		.108	
Perceived organizational support	.066	.061	.583	1.031
Training received	-.089	-.179	.108	1.031
Trauma exposure	.07	.146	.18	1.019
Tenure	.055	.242	*.036	1.123
Years of education	.148	.134	.222	1.035

Note. Dependent Variable: Perception of Job Effectiveness (*Sig. $p < .05$).
Predictors: Constant, Years of Education, Composite POS, Training, Trauma Exposure, and Tenure as a CSI

Results of the regression indicate no statistical significance for the variables of POS, stress management training received, frequency of exposure to trauma, and years of education, where $p > .05$ for each variable. Length of service as a CSI was of statistical significance at .036 as determined, where $p < .05$.

In the regression analysis of employment status, education, tenure, trauma exposure, training, and the separated POS components with perceived effectiveness, as well as with perceived effectiveness minus policies, there was no statistical significance. Separating the POS components did produce a contrasting standardized Beta result in that increasing or decreasing each independent variable by one standard deviation produced

much lower percentages of change in perceived job effectiveness. Both with and without the inclusion of Policies in the dependent variable demonstrated that POS-Organizational Rewards yielded a standardized coefficient Beta of 1.8% and -1.4% respectively. See Appendix B.

Correlation matrices demonstrated weakness within the factors composing POS and factors making up perceived effectiveness. In order to further determine the influence of perceived organizational support on perceived effectiveness, regression analysis was again applied in two manners. First, the three components of POS were assessed as they related to perceived effectiveness as a composite dependent variable. Secondly, the three components of POS were posed against each individual factor of perceived effectiveness. Finally, all of the independent variables were analyzed for their relationships with each individual perceived effectiveness factor.

The model summaries, ANOVA, and model coefficients were produced for the linear regression using the adjusted variables. The model summaries in Appendix C display the proportion of variance for job effectiveness as influenced by the separate POS components.

In the regression of the POS components and perceived job effectiveness, there was no statistical significance discovered. In the second step, the POS components were applied to each perceived effectiveness factor and Leadership had a statistically significant relationship to POS Supervisory Support, $p = .025$. See Appendices E and F. In the final regression analysis, each of the independent variables, including the separated POS components were examined for the relationship with each individual factor of

perceived job effectiveness. Correlations between independent variables were found, however no statistical significance was established between the independent and dependent variables.

There is a significant correlation between tenure and POS Supervisory Support, $p = .047$. The correlation between trauma exposure frequency and stress management training received measured $p < .001$. The regression coefficients, in Appendix F displayed the results for each perceived effectiveness factor. The relationship between years of education and the workload factor effected a value of $p = .023$. Leadership, again, appeared to be statistically significant in relation to trauma exposure ($p = .032$) and POS Supervisory Support ($p = .034$).

Findings based on the research questions. The predictor variables of POS, trauma exposure, and stress management training in RQ1 did not demonstrate influence on CSI perceived job effectiveness. In reference to RQ2, tenure influenced CSI perceived effectiveness and years of education did not.

Summary

The purpose of this chapter was to present the results of the analysis of the data collected through the survey instrument. The sample size of 92 CSIs attained through e-mail distribution to members of the FDIAI, LinkedIn forensic community, and central Florida law enforcement agencies was sufficient to represent the targeted population. The results showed the distribution of demographic responses of the participants. As a composite variable, perceived organizational support was determined by the individual ratings to eight questions within the survey. The model was expanded to denote the three

components of POS and additional analyses were performed. Following a correlation examination of the dependent variable, perceived effectiveness was adjusted to exclude Policies and another statistical test was applied. Each independent variable and separate components of POS were examined for correlation with the six contributing factors of perceived effectiveness.

Civilian and sworn POS were both established as Average, and therefore were analyzed as a whole sample in the linear regression equations. The model summary, ANOVA, and model coefficients were tabulated in order to ascertain the proportion of variance for the dependent variable of job effectiveness and the contributing factors based on influences by POS and covariates and length of service was found as statistically significant.

As a result of the study, the null hypotheses of the research questions were not rejected. The data analysis aided in the development of conclusions to contribute to social change and to the discipline of crime scene investigation. In Chapter 5, I present conclusions and recommendations for further examinations based on the findings of this study.

Chapter 5: Reflections, Conclusions, and Recommendations

Introduction

This quantitative study was conducted to explore the influences of demographic factors and POS for critical incident wellness on CSIs' perceptions of job effectiveness. The study was accomplished by selecting factors contributing to POS to develop a score based on the average of ratings for eight contributing components. Training for stress management, frequency of trauma exposure, years of service, years of education, and POS, which represented fairness, supervisory support, and organizational rewards and job conditions, were explored. The factors were examined for influence on perceived job effectiveness, controlling for region in the state of Florida. CSIs representing the FDIAI regions of Florida contributed responses to the electronic survey. This research was intended to add to the literature and heighten the knowledge of job effectiveness as connected with critical incident exposure for current and future practitioners with similar attributes within the crime scene investigation forensic discipline of law enforcement.

In this chapter, the data collected and analyzed in Chapter 4 were used to form conclusions for the research questions and explain the relationships between the variables posed. The participant sample included civilian and sworn, male and female CSIs between the ages of 24 and 72. Participation required a minimum of 1 year of CSI service and respondents had up to 47 years of service. Years of education ranged from 12 years to 24 years, and participants reported having been affiliated with one to three law enforcement agencies. The composite score for POS ranged from 1.625 to 10, based on a zero to 10 scale. Each of the research questions is discussed and descriptive statistics are

used to gain a better understanding of the composition of the sample population. Finally, the implications of this study are deliberated in relation to social change and the influence on the CSI discipline as a whole.

Interpretation of the Results

The null hypothesis of each research question was separated into individual contributing variables for clarity in the analyses. The predictor variables of POS, stress management training received, and frequency of exposure to trauma in RQ1 were found to have not influenced CSI perceived job effectiveness. The current study demonstrated no significance in the relationship between composite POS, nor the separate components of POS, and job effectiveness, which may be due to the ardent behaviors for preventive care of the employees/participants in the study. Burnett et al. (2015) examined how POS impacts effectiveness in employees and supervisors and found that employee proactive behavior increased when POS was higher. Moreover, the potential exists that if leadership ratings were lower, job effectiveness would, in turn, be low as well (Burnett et al., 2015). Level of education and years of service also showed no statistical significance to perceived job effectiveness in RQ2.

With respect to stress management training, there was no significant relationship to perceived job effectiveness. Research by Grawitch et al. (2015) referenced COR theory as a mechanism for self-regulation for stress management. Intentional or unintentional application of COR may have overshadowed the need for stress management training in some participants in this study. Additionally, those participants who had received training

or had enhanced coping strategies may not have demonstrated any notable difference in job effectiveness.

Although the frequency of exposure varied for CSIs across different regions, agencies, and tenures, no significance was found in relation to job effectiveness. Sewell (1984) noted the impact of frequent exposure to trauma as a cause for desensitization among homicide investigators. Due to desensitization, CSIs may not have displayed outward signs of vicarious traumatization, burnout, or cynicism, which could explain the resulting lowered perceptions of job effectiveness. Elntib and Armstrong (2014) reported that the frequency of trauma exposure negatively impacts psychological well-being and ultimately public safety, making effects of exposure an organizational responsibility. The results of the current study contradict Elntib and Armstrong's (2014) findings, but limitations in retrospective recall and possible recall bias may have impacted the responses.

The covariates of the length of service and years of education were examined in RQ2 and neither demonstrated an influence on the collective perspective of job effectiveness. The CSI job entails frequent exposure to tragedy and requires education and continuous professional development. Consistency in the academic or job-training backgrounds was not assessed, but the number of years of education was. Exposure to trauma during job training or academic course practical application may have been sufficient to buffer the effects of the expected trauma of future scenes, thereby reducing influences on job performance.

In consideration of the Rose and Unnithan study (2015) on the correlation between length of service and use of resources for critical incident wellness, this research did not confirm nor refute a relationship, as 66.3% of the respondents claimed to have never used resources. In fact, 47.8% of respondents shared that they never felt their job performance was impacted by critical incident exposure. The responses could have been genuine, but social desirability bias also may have contributed as a result of agency culture. Additional factors, which were not incorporated in the survey, may have contributed to the disassociation between traumatization and negative impact on job performance for the CSI participants. Previous direct traumatization or the ability to provide compassion without overt sensitivity could limit notable responses to critical incident trauma.

One prior study (Evans et al., 2013) revealed that length of service and frequency of exposure led to desensitization as a mechanism for resilience for self-preservation. The lack of significance with the independent variables and covariates suggests that CSIs are well-adjusted to the trauma they encounter, that individual coping strategies may have been applied, the traumatic events were not considered to be of concern, or desensitization may have occurred. Social desirability bias may have been engaged, as the stigma of weakness by acknowledging a need for psychological attention in the face of traumatic scene stress is a part of the law enforcement culture (Carriere, 2014; Tucker, 2015).

The majority of the participants of the current study, 62 of the 92 (67.4%) rated eight to 10 in describing the work environment as a positive influence on job

performance. Habersaat et al. (2015) reported that law enforcement officer stress is due to varying operational and organizational factors and that the work environment among the different divisions presents unique support systems. Habersaat et al. (2015) further stated that "individual perceptions of work environment may be less related to the actual work conditions but perhaps more to personal factors such as individual history or personality traits" (p. 219). CSIs, as a unique, sometimes elite division, may provide a peer support system to aid in building and maintaining resilience.

Eighty-four CSI participants (91.3%) noted that the absence or presence of policies regarding critical incident stress influences their performance. In a comparative study of forensic scientists and investigators, Howes (2017) determined that although there was an increased demand for forensic science in investigations, few had attempted to learn and understand the role and language of the scientists; therefore, recognition of the needs for resources may not occur until negative issues arise. The barrier between forensic practitioners and nonscientists in law enforcement demonstrates an opportunity for leadership to assess needs, share decision-making, and improve communication across agency units. Participant CSIs recognized the importance of interacting with evidence collectors and analysts beyond reliance on scientific knowledge without empathy for the job performed. Psychological occupational risks are a concern for the organization and for the public.

Ultimately, the factors within the study are composite variables based on retrospection of varied experiences. Additional contributors, such as hours lost to critical incident stress or financial implications (specific salary or agency labor costs, insurance

costs, or the costs of coping techniques) would offer greater insight for the impact of critical incident stress and wellness among CSIs. Revising the survey instrument for clarity and consistent interpretation would potentially impact the statistical significance of the relationships between the variables of this study.

The results of this study add the title CSI to the pool of employment positions previously explored for POS. As mentioned in Chapter 2, the fields of nursing, education, police, firefighters, and EMS personnel are among the positions examined in prior research. Organizational support theories, particularly the theories of Maslow and Herzberg, were addressed in this study through the data collected on POS and performance impact. This study showed no significance in the relationship between composite POS and perceived job effectiveness. Sufficient measurement of POS would incorporate a multitude of contributing factors for which any combination would reflect bearing on job performance. However, the factors of POS investigated in the current study did not demonstrate statistical weight on perceived job performance. Regarding the management theory of the theoretical framework of this study, no evidence of the relationship with leadership and POS nor job effectiveness were produced.

Limitations of the Study

An understanding of the limitations of this study offers a place for enhancements for future research. The primary limitations of my study were the cross-sectional design and the survey instrument. A cross-sectional design allowed for the current perspective of the factors affiliated with organizational support and job effectiveness. A longitudinal study may have permitted a study of potential changes in effectiveness over time. Shoji et

al. (2015) applied a longitudinal approach to determine a relationship between the length of service and frequency of indirect exposure to trauma. A panel study of CSIs from varying agency sizes may indicate alternate factors contributing to job effectiveness. Demographic aspects not included in the inquiry were ethnicity, marital status, income, religion, current employment position, and agency size. The absent characteristics were possible contributing variables to the participant responses. Further, offering specific ranges for age and tenure, and defined levels for education, may have provided greater clarity in the responses entered. Survey Question 3 requested years of education, leaving the interpretation to vary from inclusion to exclusion of primary schooling. Acknowledging the level of formal education, as described by Andersen et al. (2015) could have explained the estimated days reported for the impact of critical incident exposure. The rating of workload as an influence on performance was asked, yet the estimated number of scenes attended throughout the CSI career may have had a residual effect on the view of workload. A variation in the duties of the CSI, such as the inclusion of a secondary discipline (latent print examination, blood spatter interpretation, or shoe wear and tire examination) or taking an interim leadership role may also demonstrate an increase in workplace stressors which may decrease overall performance. Again, the lack of clarity in the wording of survey questions and the absence of other demographic and job-specific aspects of the target population, may have explained the results.

Another limitation of my study was the inconsistent experiences of the target population. Due to variations in agency sizes, police to CSI staff ratios, crime rates, location size and population, assistance outside of the agency, and the presence or

absence of policies for stress management, participant responses may have reflected unquantifiable practices and encounters. Each agency represented in the study applied different strategies, partially based on crime rates and budget constraints that are not collected in a statewide report for comparison.

The sample size of 92 CSIs was an added limitation of this study. The number of CSI positions in Florida, nor in any other state, was not quantified in national statistical records. The limited participation reduced generalizability to other states or regions with a CSI population inequivalent to that of the 2017 FDIAI membership.

Recommendations

This study attempted to determine the influences of perceived job effectiveness for Florida crime scene investigators. The study also examined whether there was a difference between sworn and civilian perceived organizational support, finding less than a 1-point difference in scores. Replication of this study with a larger response rate of at least 200 CSIs (or greater than 21%) would increase the power of the regression results and reliability of conclusions.

Multiple law enforcement agencies in Florida have civilianized forensic services, reducing the sworn number of CSIs. Agencies maintaining sworn CSIs also have particular considerations, including retirement tenure, a protocol for firearms use, arrest authority while in scene documentation mode, and police-specific concerns for personal safety when focusing on scene documentation.

Each of the contributing agencies represented in the current study maintains unique policies and protocols for addressing varying incidents. Identifying the expanse of

organizational and operational components for establishing critical incident protocol would offer a baseline for correlation of CSI responses in future studies. An exploration of the crime rates, attrition, and coping mechanisms, inclusive of tenure and available stress management resources, would tentatively reveal distinct steps to improve or strengthen CSI resilience. The relationship between agency provision of resources and POS may be related to a combination of the following: financial constraints, basing need on past usage, the stigma of seeking psychological support, and ignorance of potential long-term effects of trauma exposure. Obtaining the budgetary details for forensic services and basic use of confidential psychological services would be helpful in determining a balance between cost and need, yet the information would be difficult to acquire.

A comparative study of law enforcement agencies in different states, measuring the variables of the current study and the insertion of ethnicity and marital status and previously stated factors, is recommended. Data on the distribution of CSI personnel, civilian and sworn, in multiple states would enhance the value of the findings. A longitudinal study of the same parameters would also add value, to encompass natural disasters, mass shootings, and other police-involved deaths, as they impact the trauma exposure and mindset of the CSI in different locales over time. A panel study of the CSIs of Florida following major hurricanes would also reveal the needs for training and peer support.

Prior to a replication of the study, path analysis of the need for resources and the use of resources may be justified. The inclusion of a tracking mechanism for the use of

resources may also encourage leadership to promote tools for coping and decompression for critical incident stress. Many studies regarding trauma acknowledge the traumatized, the victims, and the lives of the perpetrators. Fewer studies note the impact of exposure to secondary trauma, as exposure affects families of survivors, witnesses, first responders, therapists, and crime scene investigators. Public safety organizations, as employers, have a legal responsibility to institute an occupational stress policy and to resist complaining about costs, as the costs of ignoring crises far outweigh the costs of prevention.

Implications for Social Change

This study contributed data on factors impacting perceptions of organizational support for critical incident wellness on crime scene investigators' perceived job effectiveness. This cross-sectional study was meaningful because it determined that perception of job effectiveness is not limited to organizational support, exposure to trauma, nor stress management training. Longevity in the position of CSI may be attributed to professional development, incentives for education, positive work environment, and the availability of training and resources for stress management. The study also revealed that there is minimal difference in the civilian and sworn perception of job effectiveness; a substantial number of the CSI community reported insufficient financial compensation for the job performed; and that a third of the CSI sample have no protocol and no training measures in place for critical incident trauma, such as for scenes of law enforcement officer or agency member violent deaths, mass fatalities, or other tragic scenes.

Growth and dependence on forensic services, and advancements in technology, combined with high volumes of crimes support the inclusion of forensic personnel in critical incident intervention. Most law enforcement agencies employ chaplain services accessible to members affected by critical incidents, thus spirituality can be promoted as a mechanism to buffer the mental toll of work. Proactive leadership bolsters research, whether interagency or externally, to learn the urgency of staff wellness. SWAT teams are not the only attendees at scenes of havoc and butchery. Acknowledging the perceptions and expectations of the public and the agency itself, substantiate the need for social change.

Future studies incorporating an assessment of the effectiveness of stress management resources such as CISM/CISD, employee assistance programs, supervisor and peer support or alternate coping strategies for CSIs may offer a better foundation for leadership to implement intervention and prevention mechanisms. This would secure clear options for CSI personnel in the completion of a replicate survey. Eisenberger et al. (1986, p. 501) wrote, "Perceived support would raise an employee's expectancy that the organization would reward greater effort toward meeting organizational goals (effort-outcome expectancy)." However, if the organization does not invest in the psychological well-being of employees at risk for critical incident stress, the employee level of effort may be affected, therefore, impacting POS, defining a cyclical relationship. The need for decompression may not be recognized. The social change implications justify future studies about the effects of vicarious traumatization that can be minimized if there is a relationship found between the same variables of this study or the recommended

additional variables. Law enforcement policy inclusive of worker's compensation for mental health for the CSI, as well as offering supportive resources would demonstrate reciprocity since the CSI often adopts the position as a part of their identity.

Conclusions

This study examined the influence of perceived organizational support, stress management training received, frequency of trauma exposure, education, and tenure, on perceived job effectiveness among Florida CSIs. Tenure exhibited statistical significance. Recommendations for future research include an increase in target sample size and additional variables representative of organizational and operational facets of CSI employment. As concerns for mental health grow on national platforms, further research should be conducted with the same variables and population for comparative analyses. Determining changes in job effectiveness for civilian and sworn CSIs over time would allow for more specific training and inclusion of coping strategy development in the forensic discipline and curriculum.

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Appendix A: ANOVA Tables

ANOVA for Demographics and Composite POS

Model	R Square	Mean Square	F	Sig.
Regression	.113	7.986	1.98	.091

Note. Dependent Variable: Perception of Job Effectiveness (Sig. p< .05). Predictors: Constant, Years of Education, Perceived Job Support, Training, Frequent Exposure to Trauma, and Length of Service as a CSI

ANOVA for Demographic IVs with Separated POS

Model	Sum of Squares	Mean Square	F	Sig.
Regression	27.052	3.382	.683	.705
Residual	41.940	4.951		

Note: Dependent Variable: Perceived Effectiveness (Sig. p< .05).; Predictors: (Constant), Training, Tenure, Trauma Exposure, POSFair, POSSupv, and POSRew

ANOVA for Demographic IVs with Separated POS and PerEff-policies

Model	Sum of Squares	Mean Square	F	Sig.
Regression	27.840	3.480	.598	.777
Residual	483.406	5.824		

Note: Dependent Variable: Perceived Effectiveness minus Policies (Sig. p< .05).; Predictors: (Constant), Training, Tenure, Trauma Exposure, POSFair, POSSupv, and POSRew

Appendix B: Model Coefficient Tables

Coefficients for Demographics and Composite POS

	B	Beta	Sig.	VIF
(Constant)	3.584		.108	
Perceived Organizational Support	.066	.061	.583	1.061
Training Received	-.089	-.179	.108	1.061
Trauma Exposure	.07	.146	.18	1.0199
Tenure as a CSI	.055	.242	.036	1.123
Education	.148	.134	.222	1.035

Note: Dependent Variable: Perceived Effectiveness (Sig. p< .05)

Coefficients for Demographic IVs with Separated POS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.531	2.183		2.076	.041
Employ	-.220	.646	-.037	-.341	.734
Education	.113	.104	.120	1.086	.281
Tenure	.016	.024	.074	.672	.504
TraumaExp	-.021	.024	-.108	-.877	.383
Training	-.020	.032	-.076	-.634	.528
POSFair	.062	.129	.066	.481	.631
POSSupv	.055	.139	.057	.397	.693
POSRew	.018	.134	.018	.132	.895

Note: Dependent Variable: Perceived Effectiveness (Sig. p< .05)

Coefficients for Demographic IVs with Separated POS and PerEff-policies

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.515	2.368		1.907	.060
Employ	-.344	.701	-.054	-.491	.624
Education	.139	.113	.136	1.227	.223
Tenure	.017	.026	.072	.649	.518
TraumaExp	-.025	.026	-.118	-.953	.343
Training	-.011	.035	-.038	-.314	.754
POSFair	.045	.140	.044	.324	.746
POSSupv	.067	.150	.064	.444	.658
POSRew	-.015	.145	-.014	-.102	.919

Note: Dependent Variable: Perceived Effectiveness minus Policies (Sig. p< .05)

Appendix C: Model Summaries, Separated POS and Composite Perceived Effectiveness

Model Summary- Regression of POS components and Perceived Effectiveness

R	R Square	Adjusted R Square	F Change	Sig. F Change
.137	.019	-.015	.559	.643

Note. Dependent Variable: Perceived Job Effectiveness (Sig. p< .05).
Predictors: Constant, POS Fairness, POS Supervisory Support, and POS Organizational Rewards

ANOVA for Regression of POS components and Perceived Effectiveness

Model	Sum of Squares	Mean Square	F	Sig.
Regression	8.194	2.731	.559	.643
Residual	429.799	4.884		

Note: Dependent Variable: Perceived Effectiveness (Sig. p< .05).; Predictors: (Constant), POSFair, POSSupv, and POSRew

Coefficients for Regression of POS components and Perceived Effectiveness

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6.018	.811		7.420	.000
POSFair	.040	.125	.043	.322	.748
POSSupv	.052	.166	.054	.388	.699
POSRew	.065	.127	.068	.512	.610

Note: Dependent Variable: Perceived Effectiveness (Sig. p< .05)

Appendix D: Regression Correlations

Regression correlations for independent variables, POS components, and Perceived Job Effectiveness

Correlations

		Emply	Education	Tenure	Trauma Exp	Training	POSFair	POSSupv	POSRew
Employ	Pearson Correlation	1	-.003	-.014	.177	.032	-.103	-.166	-.128
	Sig. (2-tailed)		.978	.894	.092	.764	.327	.113	.223
	Sum of Squares and Cross-products	12.554	-.228	-4.739	67.348	8.707	-8.109	-12.821	-9.890
	Covariance	.138	-.003	-.052	.740	.096	-.089	-.141	-.109
	N	92	92	92	92	92	92	92	92
Education	Pearson Correlation	-.003	1	-.115	-.009	-.053	.015	-.123	.100
	Sig. (2-tailed)	.978		.274	.933	.618	.886	.242	.343
	Sum of Squares and Cross-products	-.228	491.859	-243.696	-21.261	-9.467	7.457	-59.473	48.280
	Covariance	-.003	5.405	-2.678	-.234	-.994	.082	-.654	.531
	N	92	92	92	92	92	92	92	92
Tenure	Pearson Correlation	-.014	-.115	1	.062	.025	.180	.208*	.148
	Sig. (2-tailed)	.894	.274		.555	.814	.086	.047*	.160
	Sum of Squares and Cross-products	-4.739	-243.696	9091.652	639.870	183.391	379.478	43.741	306.170
	Covariance	-.052	-2.678	99.908	7.032	2.015	4.170	4.733	3.365
	N	92	92	92	92	92	92	92	92
Trauma Exp	Pearson Correlation	.177	-.009	.062	1	.401**	.064	-.094	-.164
	Sig. (2-tailed)	.092	.933	.555		.000*	.542	.372	.119
	Sum of Squares and Cross-products	67.348	-21.261	639.870	11571.826	3346.522	153.304	-22.102	-383.590
	Covariance	.740	-.234	7.032	127.163	36.775	1.685	-2.419	-4.215
	N	92	92	92	92	92	92	92	92
Training	Pearson Correlation	.032	-.053	.025	.401**	1	.165	.081	.128
	Sig. (2-tailed)	.764	.618	.814	.000*		.116	.443	.225
	Sum of Squares and Cross-products	8.707	-9.467	183.391	3346.522	6007.685	283.087	136.312	215.680
	Covariance	.096	-.994	2.015	36.775	66.019	3.111	1.498	2.370
	N	92	92	92	92	92	92	92	92
POSFair	Pearson Correlation	-.103	.015	.180	.064	.165	1	.559**	.499**
	Sig. (2-tailed)	.327	.886	.086	.542	.116		.000*	.000*
	Sum of Squares and Cross-products	-8.109	7.457	379.478	153.304	283.087	49.217	269.206	24.495
	Covariance	-.089	.082	4.170	1.685	3.111	5.387	2.958	2.643
	N	92	92	92	92	92	92	92	92
POSSupv	Pearson Correlation	-.166	-.123	.208*	-.094	.081	.559**	1	.554**
	Sig. (2-tailed)	.113	.242	.047*	.372	.443	.000*		.000*

	Sum of Squares and Cross-products	-12.821	-59.473	43.741	-22.102	136.312	269.206	472.841	262.227
	Covariance	-.141	-.654	4.733	-2.419	1.498	2.958	5.196	2.882
	N	92	92	92	92	92	92	92	92
POSRew	Pearson Correlation	-.128	.100	.148	-.164	.128	.499**	.554**	1
	Sig. (2-tailed)	.223	.343	.160	.119	.225	.000*	.000*	
	Sum of Squares and Cross-products	-9.890	48.280	306.170	-383.590	215.680	24.495	262.227	473.629
	Covariance	-.109	.531	3.365	-4.215	2.370	2.643	2.882	5.205
	N	92	92	92	92	92	92	92	92

Note: *Correlation is significant at the .05 level (2-tailed).

Appendix E: Model Summaries- Separated POS and Separated Perceived Effectiveness

The separated factors for Perceived Organizational Support are POS Fairness, POS Supervision, and POS Rewards and Recognition. The Correlations and Regression analyses for the six components of the dependent variable were performed.

Model Summary DV: Salary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.139[a]	.019	-.014	3.179	.019	.582	3

Model Summary: DV Recognition

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.198[a]	.039	.006	2.934	.039	1.197	3

Model Summary: DV Work Environment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.045[a]	.002	-.032	2.595	.002	.061	3

Model Summary: DV Leadership

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.296[a]	.088	.057	2.882	.088	2.823	3

Model Summary: DV Workload

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.156[a]	.024	-.009	2.657	.024	.732	3

Model Summary: DV Policies

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.222[a]	.049	.017	2.505	.049	1.524	3

ANOVA[a] Salary

Model		Sum of Squares	df	Mean Square
1	Regression	17.650	3	5.883
	Residual	889.340	88	1.106
	Total	906.989	91	

a. Dependent Variable: Salary
b. Predictors: (Constant), POSRew, POSFair, POSSupv

ANOVA[a] RECOGNITION

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.911	3	1.304	1.197	.316[b]
	Residual	757.394	88	8.607		
	Total	788.304	91			

a. Dependent Variable: Recognition
b. Predictors: (Constant), POSRew, POSFair, POSSupv

ANOVA[a] WORK ENVIRONMENT

Model		Sum of Squares	df	Mean Square
1	Regression	1.225	3	.408
	Residual	592.427	88	6.732
	Total	593.652	91	

a. Dependent Variable: WorkEnv
b. Predictors: (Constant), POSRew, POSFair, POSSupv

ANOVA[a] LEADERSHIP

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.331	3	23.444	2.823	.043[b]
	Residual	73.745	88	8.304		
	Total	801.076	91			

a. Dependent Variable: Leadership
b. Predictors: (Constant), POSRew, POSFair, POSSupv

ANOVA[a] WORKLOAD

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.517	3	5.172	.732	.535[b]
	Residual	621.386	88	7.061		
	Total	636.902	91			

a. Dependent Variable: Workload
b. Predictors: (Constant), POSRew, POSFair, POSSupv

ANOVA[a] POLICIES

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.699	3	9.566	1.524	.214[b]
	Residual	552.257	88	6.276		
	Total	58.957	91			

a. Dependent Variable: Policies
b. Predictors: (Constant), POSRew, POSFair, POSSupv

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6.924	1.167		5.935	.000
	POSFair	.227	.180	.167	1.262	.210
	POSSupv	-.145	.191	-.105	-.762	.448
	POSRew	-.073	.182	-.053	-.401	.689

a. Dependent Variable: Salary

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	7.670	.952		8.055	.000
	POSFair	-.053	.147	-.048	-.360	.720
	POSSupv	.010	.156	.009	.065	.949
	POSRew	.047	.149	.042	.313	.755

a. Dependent Variable: WorkEnv

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	7.052	.975		7.232	.000
	POSFair	.203	.151	.178	1.346	.182
	POSSupv	.006	.160	.005	.036	.972
	POSRew	-.093	.153	-.080	-.609	.544

a. Dependent Variable: Workload

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.691	1.077		4.357	.000
	POSFair	.030	.166	.023	.178	.859
	POSSupv	.033	.176	.026	.187	.852
	POSRew	.218	.168	.169	1.296	.198

a. Dependent Variable: Recognition

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.841	1.057		4.578	.000
	POSFair	-.275	.163	-.215	-1.684	.096
	POSSupv	.394	.173	.303	2.277	.025
	POSRew	.133	.165	.102	.802	.425

a. Dependent Variable: Leadership

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.830	.919		5.254	.000
	POSFair	.123	.142	.113	.868	.388
	POSSupv	.068	.150	.061	.449	.654
	POSRew	.102	.144	.092	.711	.479

a. Dependent Variable: Policies

Appendix F: Regression Tables, All Independent Variables and Separated Perceived Effectiveness

The independent variables of employment status, education, tenure, trauma exposure, training, and perceived organizational support were applied in this analysis. The separated factors for Perceived Organizational Support are POS Fairness, POS Supervision, and POS Rewards and Recognition. The Correlations and Regression analyses of the independent variables and for each component of the dependent variable were performed.

Descriptive Statistics

	Mean	Std. Deviation	N
Employ	1.16	.371	92
Education	16.82	2.325	92
Tenure	13.78	9.995	92
TraumaExp	7.04	11.277	92
Training	3.62	8.125	92
POSFair	4.674	2.3210	92
POSSupv	7.1880	2.27949	92
POSRew	6.1700	2.28138	92

Correlations

		Employ	Education	Tenure	TraumaExp	Training	POSFair	POSSupv	POSRew
Employ	Pearson Correlation	1	-.003	-.014	.177	.032	-.103	-.166	-.128
	Sig. (2-tailed)		.978	.894	.092	.764	.327	.113	.223
	Sum of Squares and Cross-products	12.554	-.228	-4.739	67.348	8.707	-8.109	-12.821	-9.890
	Covariance	.138	-.003	-.052	.740	.096	-.089	-.141	-.109
	N	92	92	92	92	92	92	92	92
Education	Pearson Correlation	-.003	1	-.115	-.009	-.053	.015	-.123	.100
	Sig. (2-tailed)	.978		.274	.933	.618	.886	.242	.343
	Sum of Squares and Cross-products	-.228	491.859	-243.696	-21.261	-9.467	7.457	-59.473	48.280
	Covariance	-.003	5.405	-2.678	-.234	-.994	.082	-.654	.531
	N	92	92	92	92	92	92	92	92
Tenure	Pearson Correlation	-.014	-.115	1	.062	.025	.180	.208*	.148
	Sig. (2-tailed)	.894	.274		.555	.814	.086	.047	.160
	Sum of Squares and Cross-products	-4.739	-243.696	9091.652	639.870	183.391	379.478	43.741	306.170
	Covariance	-.052	-2.678	99.908	7.032	2.015	4.170	4.733	3.365
	N	92	92	92	92	92	92	92	92
TraumaExp	Pearson Correlation	.177	-.009	.062	1	.401**	.064	-.094	-.164
	Sig. (2-tailed)	.092	.933	.555		.000	.542	.372	.119
	Sum of Squares and Cross-products	67.348	-21.261	639.870	11571.826	3346.522	153.304	-22.102	-383.590
	Covariance	.740	-.234	7.032	127.163	36.775	1.685	-2.419	-4.215
	N	92	92	92	92	92	92	92	92
Training	Pearson Correlation	.032	-.053	.025	.401**	1	.165	.081	.128

	Sig. (2-tailed)	.764	.618	.814	.000		.116	.443	.225
	Sum of Squares and Cross-products	8.707	-9.467	183.391	3346.522	6007.685	283.087	136.312	215.680
	Covariance	.096	-.994	2.015	36.775	66.019	3.111	1.498	2.370
	N	92	92	92	92	92	92	92	92
POSFair	Pearson Correlation	-.103	.015	.180	.064	.165	1	.559**	.499**
	Sig. (2-tailed)	.327	.886	.086	.542	.116		.000	.000
	Sum of Squares and Cross-products	-8.109	7.457	379.478	153.304	283.087	49.217	269.206	24.495
	Covariance	-.089	.082	4.170	1.685	3.111	5.387	2.958	2.643
	N	92	92	92	92	92	92	92	92
POSSupv	Pearson Correlation	-.166	-.123	.208*	-.094	.081	.559**	1	.554**
	Sig. (2-tailed)	.113	.242	.047	.372	.443	.000		.000
	Sum of Squares and Cross-products	-12.821	-59.473	43.741	-22.102	136.312	269.206	472.841	262.227
	Covariance	-.141	-.654	4.733	-2.419	1.498	2.958	5.196	2.882
	N	92	92	92	92	92	92	92	92
POSRew	Pearson Correlation	-.128	.100	.148	-.164	.128	.499**	.554**	1
	Sig. (2-tailed)	.223	.343	.160	.119	.225	.000	.000	
	Sum of Squares and Cross-products	-9.890	48.280	306.170	-383.590	215.680	24.495	262.227	473.629
	Covariance	-.109	.531	3.365	-4.215	2.370	2.643	2.882	5.205
	N	92	92	92	92	92	92	92	92

Model Summary: DV Salary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.170[a]	.029	-.065	3.258	.029	.309	8

Model Summary: DV Work Environment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.335[a]	.112	.026	2.520	.112	1.309	8

Model Summary: DV Workload

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.349[a]	.122	.037	2.596	.122	1.441	8

Model Summary: DV Leadership

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.407[a]	.166	.086	2.837	.166	2.065	8

Model Summary: DV Recognition

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.278[a]	.077	-.012	2.960	.077	.868	8

Model Summary: DV Policies

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.260[a]	.067	-.022	2.555	.067	.751	8

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.218	8	3.277	.309	.961[b]
	Residual	88.771	83	1.612		
	Total	906.989	91			

a. Dependent Variable: Salary
b. Predictors: (Constant), POSRew, Education, Employ, Training, Tenure, TraumaExp, POSFair, POSSupv

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.497	8	8.312	1.309	.251[b]
	Residual	527.155	83	6.351		
	Total	593.652	91			

a. Dependent Variable: WorkEnv
b. Predictors: (Constant), POSRew, Education, Employ, Training, Tenure, TraumaExp, POSFair, POSSupv

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	77.681	8	9.710	1.441	.192[b]
	Residual	559.221	83	6.738		
	Total	636.902	91			

a. Dependent Variable: Workload
b. Predictors: (Constant), POSRew, Education, Employ, Training, Tenure, TraumaExp, POSFair, POSSupv

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.847	8	7.606	.868	.547[b]
	Residual	727.458	83	8.765		
	Total	788.304	91			

a. Dependent Variable: Recognition
b. Predictors: (Constant), POSRew, Education, Employ, Training, Tenure, TraumaExp, POSFair, POSSupv

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	132.987	8	16.623	2.065	.049[b]
	Residual	668.089	83	8.049		
	Total	801.076	91			

a. Dependent Variable: Leadership
b. Predictors: (Constant), POSRew, Education, Employ, Training, Tenure, TraumaExp, POSFair, POSSupv

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.200	8	4.900	.751	.647[b]
	Residual	541.757	83	6.527		
	Total	58.957	91			

a. Dependent Variable: Policies
b. Predictors: (Constant), POSRew, Education, Employ, Training, Tenure, TraumaExp, POSFair, POSSupv

Coefficients[a]: DV SALARY

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	8.057	3.196		2.521	.014
	Employ	-.448	.946	-.053	-.474	.637
	Education	-.050	.153	-.037	-.326	.745
	Tenure	.007	.035	.023	.203	.840
	TraumaExp	.025	.035	.088	.707	.481
	Training	-.015	.047	-.038	-.312	.756
	POSFair	.208	.189	.153	1.099	.275
	POSSupv	-.165	.203	-.119	-.812	.419
	POSRew	-.035	.196	-.025	-.176	.860

Coefficients[a]: DV Work Environment

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5.695	2.473		2.303	.024
	Employ	-1.113	.732	-.162	-1.521	.132
	Education	.223	.118	.203	1.883	.063
	Tenure	.030	.027	.117	1.092	.278
	TraumaExp	-.046	.027	-.201	-1.682	.096
	Training	.053	.037	.167	1.439	.154
	POSFair	-.054	.146	-.049	-.372	.711
	POSSupv	.017	.157	.015	.106	.916
	POSRew	-.082	.152	-.074	-.543	.589

Coefficients[a]: DV WORKLOAD

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.721	2.547		.676	.501
	Employ	.474	.754	.067	.628	.532
	Education	.283	.122	.248	2.323	.023
	Tenure	.012	.028	.046	.432	.667
	TraumaExp	-.019	.028	-.082	-.687	.494
	Training	-.045	.038	-.139	-1.203	.232
	POSFair	.227	.150	.199	1.509	.135
	POSSupv	.073	.162	.063	.450	.654
	POSRew	-.164	.156	-.141	-1.049	.297

Coefficients[a]: DV RECOGNITION

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.685	2.905		1.269	.208
	Employ	-.302	.860	-.038	-.351	.727
	Education	.092	.139	.073	.663	.509
	Tenure	.012	.032	.040	.369	.713
	TraumaExp	-.017	.032	-.066	-.545	.587
	Training	-.048	.043	-.133	-1.122	.265
	POSFair	.065	.172	.051	.379	.706
	POSSupv	.028	.184	.022	.154	.878
	POSRew	.187	.178	.145	1.050	.297

Coefficients[a]: DV LEADERSHIP

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.418	2.784		1.228	.223
	Employ	-.333	.824	-.042	-.404	.687
	Education	.147	.133	.115	1.104	.273
	Tenure	.024	.031	.081	.779	.438
	TraumaExp	-.066	.030	-.252	-2.176	.032
	Training	.001	.041	.002	.015	.988
	POSFair	-.218	.164	-.171	-1.327	.188
	POSSupv	.381	.177	.293	2.156	.034
	POSRew	.020	.171	.015	.115	.909

Coefficients[a]: DV POLICIES

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.158	2.507		1.659	.101
	Employ	.451	.742	.066	.608	.545
	Education	.016	.120	.014	.130	.897
	Tenure	.008	.028	.032	.288	.774
	TraumaExp	-.021	.027	-.096	-.781	.437
	Training	-.016	.037	-.053	-.443	.659
	POSFair	.152	.148	.140	1.028	.307
	POSSupv	.064	.159	.057	.400	.690
	POSRew	.082	.154	.074	.535	.594