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Psychological Resilience in Correctional Officers: The Role of Demographics

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Abstract

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MS, Walden University, 2013

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Dissertation Submitted in Partial Fulfillment

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Abstract

Correctional officers occupy an important societal role in maintaining safety and assisting in the rehabilitation of inmates; however, both their performance and mental health are highly susceptible to fatigue because of working in a high stress environment. This study investigated the relationship between correctional officers' demographic factors (level of education, marital status, gender, and race/ethnicity) and their psychological resilience. The Connor-Davidson Resilience Scale 10 (CD-RISC-10) was used to measure correctional officers' resilience when responding and or coping with stress. This study utilized the stress-vulnerability model as a framework to investigate protective factors against and risk factors for psychopathological symptoms. Participants included 52 individuals who were over the age of 18, employed as correctional officers, and who worked for either the California Department of Corrections and Rehabilitation or the Texas Department of Criminal Justice. Two tests measured the outcome variable of correctional officers' psychological resilience. The first factorial 2-way analysis of variance revealed no significant differences in correctional officers' levels of psychological resilience by gender and or race/ethnicity. The second factorial 2-way analysis of variance revealed no significant differences in correctional officers' levels of psychological resilience by marital status and or educational level. The information gained from this study implies that the development of programs that improve correctional officers' resilience and prevent the onset of psychopathology should be focused on factors other than races/ethnicities, genders, marital statuses, and levels of education.

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Table of Contents

List of Tables

Chapter 1: Introduction to the Study

Background of the Study

Correctional officers face the difficult task of working in hostile, and often traumatic, environments and are highly susceptible to developing mental health issues (Constantini et al., 2010). While researchers have identified the psychological strain associated with professionals who work with criminals (Gould, Watson, Price, & Valliant, 2013), these efforts have been deficient in identifying the roles of specific U.S. correctional officers' demographics (level of education, marital status, gender, and race/ethnicity) as they pertain to this population's psychological well-being (Andrews & Bonta, 2010).

Researchers have found factors associated with gender, race/ethnicity, level of education, and marital status to influence the way individuals respond to and/or cope with stressful intrusions on everyday life (Hamby & Grych, 2013; Masten, 2011; Rutter, 2012; Xiu & Musad, 2009). This study's topic was formulated to address a gap in the current available literature and could provide much needed information pertaining to the role of demographics as protective factors for scholars investigating correctional officers' psychological resilience. In this study, I was concerned with identifying the positive role of specific demographics as they may relate to correctional officers' psychological resilience. This study's demographic questionnaire included gender and race/ethnicity for the sole purpose of investigating their roles related to psychological resilience. Correctional officers face many psychological challenges as a result of working in high stress environments among dangerous inmates (Xanthakis, 2009). Many stressors that

influence the mental health and well-being of correctional officers have been identified in previous studies (Brough & Williams, 2007; Gould et al., 2013; Senol-Durak, Durak, & Gencoz, 2006). Research has yielded valuable information pertaining to the neuro-psychological activity that occurs when individuals face stressful encounters (Xiu & Musad, 2009). The current minimal understanding of these factors, coupled with the potential unique interplays that exist between them, prompted in large part this study's focus on individuals' vulnerability to stress. Intensive research efforts have concluded that trained psychologists in correctional institutions are much more susceptible to developing psychological problems when compared to other psychologists working outside of correctional facilities (Senter, Morgan, Serna-McDonald, & Bewley, 2010). One can only speculate that if well-trained psychologists have been deemed higher risk for developing psychological problems (Senter et al., 2010), correctional officers who are less trained in recognizing the emergence of psychopathological symptoms are at even greater risks of developing mental health issues. To provide insight into the role that demographics play in correctional officers' psychological resilience, further understanding of the elements that contribute to healthy psychological functioning and the unique interplays that may exist between them must be investigated (Masten, 2007).

Gould et al. (2013) suggested that correctional officers, because of their increased face-to- face encounters with inmates, are among those most susceptible to psychological problems. Previous findings have made it apparent that research efforts should be focused on investigating the psychological well-being of correctional officers, as they serve an important human service role in maintaining society's safety and assisting in the

rehabilitation of inmates (Andrews & Bonta, 2010; Constantini et al., 2010; Xanthakis, 2009).

The positive social implication for researching the role of demographics in correctional officers' psychological resilience affects everyone. Correctional officers' contributions to society stretch far beyond the inmates they assist to rehabilitate. Insight into the psychological resilience of correctional officers will improve understanding of factors that affect their ability to perform vital services for all of society. Research has validated the importance of identifying individuals considered clinical high risk for mental health illnesses at the early phases of the diagnosis in order to develop and implement the most effective treatment plans. Future researchers focused on targeting prevention approaches for this population may use this study's investigation of demographic factors and the possible unique interplays that exist between them. Ultimately, efforts such as this one are necessary to provide insight into demographics that act as protective factors on psychological resilience and will provide a sturdier foundation for future research efforts to build upon.

Problem Statement

Due in part to the rise of prison populations, it has become apparent that research in effective coping strategies for correctional staff is needed (Andrews & Bonta, 2010). Researchers have identified that psychological resilience among professionals who work in high stress environments can help avoid burnout (Andrews & Bonta, 2010; Constantini et al., 2010). I developed the present study in an effort to address the lack of information regarding U.S. correctional officers' psychological resilience and to provide a foundation

for future efforts concerned with investigating the coping strategies that correctional officers employ on a daily basis.

Many studies have focused on various factors associated with correctional officer burnout in countries outside of the United States (Gould et al., 2013). Studies have explained the psychological strain that accompanies officers who work with criminals (Constantini et al., 2010) and have investigated their reluctance towards accessing mental health services (Wester, Arndt, Sedivy, & Arndt, 2010). This study not only addressed the growing concern associated with the high turnover rate that affects the 469,500 correctional officers working in U.S. prisons (Bureau of Labor Statistics, U.S. Department of Labor, n.d.; Constantini et al., 2010) and the inmates they help to rehabilitate, but also the U.S. population they are tasked with protecting.

Purpose of the Study

Investigating the roles of gender, race/ethnicity, level of education, and marital status on correctional officers' psychological resilience allowed me to identify whether one demographic factor (or a combination of demographic factors) can be considered more protective against the onset and/or development of psychopathology than others. The correctional officers' descriptive demographic factors were collected simultaneously with data pertinent to establishing their psychological resilience.

Research Questions and Hypotheses

RQ1: Are there differences in psychological resilience between levels of education among correctional officers? [Dependent Variable (DV)- psychological resilience, Independent Variable (IV)- educational level]

$H_0$1 = There will be no difference in psychological resilience between levels of education among correctional officers.

$H_1$1 = Correctional officers with higher levels of education will have higher psychological resilience scores.

RQ2: Are there differences in psychological resilience between different marital statuses among correctional officers? (DV-psychological resilience, IV- marital status)

$H_0$2 = There will be no differences in psychological resilience between different marital statuses among correctional officers.

$H_1$2 = There will be significant differences in psychological resilience between different marital statuses among correctional officers.

RQ3: Are there differences in psychological resilience between races/ethnicities among correctional officers? (DV-psychological resilience, IV- race/ethnicity)

$H_0$3 = There will be no differences in psychological resilience between races/ethnicities among correctional officers.

$H_1$3 = There will be significant differences in psychological resilience between races/ethnicities among correctional officers.

RQ4: Are there differences in psychological resilience between genders among correctional officers? (DV-psychological resilience, IV- gender)

$H_0$4 = There will be no signification differences in psychological resilience between genders among correctional officers.

$H_1$4 = There will be significant differences in psychological resilience between genders among correctional officers.

Theoretical Framework

The theoretical framework that drove this research was the stress-vulnerability model (Gibson et al., 2014) and the American Psychiatric Association's (APA) (2013) definition of psychological resilience. Researchers have used the stress-vulnerability model consistently to examine the point at which an individual's ability to effectively respond to stressors is exceeded, thus resulting in the emergence of psychopathological symptoms. The APA explained that individuals who were resilient possessed the ability to effectively respond and cope with adversity (APA, 2013). Serious mental health issues have emerged among individuals exposed to high stress environments and include negative symptoms such as the inability to feel pleasure (anhedonia), flat affect, and/or social withdraw (Rutter, 2012). Correctional officers were among the individuals who were exposed to high stress and often traumatic environments; however, their encounters with such conditions were considered part of the job (Brough & Williams, 2007).

Research has identified the high stress and potential negative psychological symptoms associated with correctional officers (Brough & Williams, 2007; Senol-Durak et al., 2006). By utilizing the stress-vulnerability model as a basis for investigating the role of demographics as they pertain to correctional officers' psychological resilience, I was able to identify whether specific demographic factors contributed to a correctional officer's ability to effectively respond to and cope with adversity. I employed the stress-vulnerability model as the theoretical structure from which to formulate the investigation, using *positive psychology* (Goh & Agius, 2010; Seligman, 2000; Snyder & Lopez, 2007). Emphasizing positive psychology, I used the stress-vulnerability model to investigate not

only the role of demographics, but also the manner in which they might strengthen psychological resilience among correctional officers.

Nature of the Study

I conducted a survey-designed study, following Creswell's (2014) definition, in order to investigate the interaction between demographics (level of education, marital status, gender, and race/ethnicity) and correctional officers' psychological resilience. Quantitative research that investigates the relationship between multiple independent variables and a single dependent variable is best suited for a factorial design (Creswell, 2014). I used a two-way analysis of variance (ANOVA) full factorial design in order to examine the manner in which each individual demographic factor and the combination of demographic factors potentially related to psychological resilience. Factorial two-way ANOVA allowed me to determine if demographic factor(s) contributed to correctional officers' ability to effectively respond and cope with adversity.

Using the Connor-Davidson Resilience Scale 10 (CD-RISC-10; Campbell-Sills & Stein, 2007), I gained objective data that I utilized to determine a correctional officer's ability to respond to and/or cope with stress. The CD-RISC-10 survey has been used in many research efforts in order to measure the psychological resilience of various populations (Scali et al., 2012; Stephens, 2012) and entails 10 items, each consisting of a five-response Likert scale. Responders who have higher total item scores are determined to have higher psychological resilience. Participant data derived from the CD-RISC-10 and a descriptive data questionnaire provided this study with the necessary information to appropriately use a two-way ANOVA full factorial design.

The dependent variable in this study was correctional officers' psychological resilience and the independent variables consisted of four demographic factors (i.e., level of education, marital status, gender, and race/ethnicity). All information pertaining to independent variables was collected via a descriptive data questionnaire inquiring about a responder's level of education, marital status, gender, and race/ethnicity. The descriptive data questionnaire and CD-RISC-10 survey were offered to the responder simultaneously, and participants were asked to return both data collection tools simultaneously as well.

Definitions

Coping strategies: Conscious efforts to address personal and interpersonal problems.

Demographic factors: Statistical data relating to the characteristics of human populations.

Gender: The physical and/or social condition of being male or female.

Intrinsic factors: Belonging to the essential nature of a person.

Level of education: Highest of education achieved from a recognized academic institution.

Positive psychology: The study of strengths that contribute to an individual's and/or community's psychological well-being.

Protective factors: Attributes or conditions that contribute to an individual's ability to respond to and cope with stressful events effectively.

Psychological resilience: An individual's ability to properly adapt to stress and adversity.

Psychopathological symptoms: Symptom(s) that contribute to mental illness or distress.

Race/ethnicity: The race or races that individuals most closely identify with related to both biological and sociological factors.

Assumptions

Collection of survey data required an assumption that responders provided information requested in a forthright and accurate manner. The present study involved the assumption that the measure (CD-RISC-10) provided accurate data related to the construct of psychological resilience. For this study, I also assumed that all participants were employed as correctional officers at the time that they completed both the CD-RISC-10 and descriptive data questionnaire and that they were able to read at a fifth-grade level.

Scope and Delimitations

For the present study, I did not collect data beyond that of which is contained in the CD-RISC-10 and the descriptive data questionnaire. This study did not include the utilization of descriptive data that encompasses genders beyond that of male or female, marital status beyond that of married or not married, and/or levels of education lower than that of a high school diploma or general equivalency diploma (GED).

Limitations

Because this study's focus was on the psychological resilience of correctional officers who work in the United States, data produced may not be applicable to correctional officers working outside of the United States. Another limitation pertinent to the utilization of information yielded from this study was that it may only be applicable to correctional officers who work face-to-face with inmates and not those employed in positions that do not require direct interaction with inmates. Correctional officers who do not have the necessary access or the ability to gain access to an online medium utilized in this study's data collection (e.g., Facebook, Survey Monkey Audience, Yahoo Focus Groups, LinkedIn) were able to participate via U.S. Postal Service mail correspondence.

Significance of the Study

Identifying factors that contribute to psychological resilience in correctional officers will improve the ability to target prevention approaches. As correctional officers struggle to protect themselves against the negative psychopathological symptoms that result from working in a highly stressful and volatile environment (Andrews & Bonta, 2010), both their performance and mental health become highly susceptible to fatigue (McCraty, Atkinson, & Tiller, 2003). It is necessary to first identify the crucial role of protective factors that may contribute to the psychological resilience of correctional officers in order to gain insight into appropriate treatment measures.

Research has validated the importance of identifying individuals who are considered clinical high risk for mental health illnesses at the early phases of the diagnosis in order to develop and implement the most effective treatment plans (Cannon

et al., 2008). By identifying demographics that contribute to correctional officers' psychological resilience, therapists may be able to determine those who are clinical high risk earlier and target prevention approaches that are evidenced-based and in alignment with the respective demographic factors.

While most studies seemingly focus on identifying the factors that negatively contribute to the psychological resilience of individuals who are employed in high stress and high risk positions, this study was aligned with positive psychology. The idea of focusing on the factors that contribute to an individual's well-being has become in recent years the interest of many scholar practitioners who seek to build on the strength of their clients (Drvaric et al., 2015). Should this study have identified demographic factors related to correctional officers' psychological resilience, therapists would be better equipped to identify optimal prevention approaches. A method rooted deeply in the workings of positive psychology is to make apparent what has gone right instead of what has gone wrong (Seligman, 2000).

The significance of this study is directly associated with its goal to determine the positive role that demographics play in the promotion of correctional officers' psychological resilience. By first making apparent the role of demographics as they pertain to psychological resilience in correctional officers, and then in the future examining these strengths, my hope with this study was to provide insight into the factors that these individuals rely on to mitigate the negative psychopathological symptoms that they face. Therapists will have a better understanding of demographic factors that

contribute to psychological resilience and the positive emotions they evoke when the results of this study are disseminated.

A renowned expert in the area of positive psychology, Seligman (2000) wrote, "A science of positive subjective experience, positive individual traits, and positive institutions promises to improve quality of life and prevent the pathologies that arise when life is barren and meaningless" (p. 5). Positive emotions such as excitement, satisfaction, and pride may be associated with race/ethnicity and/or gender and could potentially play a role when therapists help their clients to develop or maintain a positive sense of well-being.

Implications for Positive Social Change

In this study, I investigated the role of demographics that act as protective factors against psychopathological symptoms and attempted to identify factors that could be further built upon to improve mental health well-being. The results of this study increased understanding of whether demographic factors are related to the psychological resilience of individuals working in high stress environments. Gaining a better understanding of psychological resilience allows mental health professionals to employ positive psychology strategies to build on the strengths of their clients (Drvaric et al., 2015). Mental health professionals working with correctional officers will be able to develop treatment plans based on positive emotions, relationships, meaning and purpose, and accomplishments as they consider correctional officers' psychological resilience. Therapists working with correctional officers may also benefit from this study's inclusion of race/ethnicity and gender. Correctional officers are tasked with ensuring the safety of

both inmates and the public. Targeting prevention approaches that assist correctional officers to maintain and/or strengthen their psychological resilience is vital to ensure their well-being, the safety of the public, and the inmate population.

The U.S. population includes individuals who have been imprisoned at one point. Efforts to rehabilitate prisoners carry significant social implications. The idea of self-care plays a vital role in many professions; however, this study was developed on the assumption that those who work in volatile professions are especially in need of identifying their protective factors. Research has identified that correctional officers face high stress working environments on a daily basis (Brough & Williams, 2007). The information gained from this study could potentially contribute to the development of programs that improve their psychological resilience and prevent the onset of psychopathology. Demographic factors such as correctional officers' race/ethnicity and gender cannot be changed if a link between them and psychological resilience was made; however, this study's data serve to increase awareness of those considered to be at higher risk.

Summary and Transition

Close to a half of a million correctional officers report to work in U.S. prisons (Bureau of Labor Statistics, U.S. Department of Labor, n.d.). U.S. correctional officers have direct contact with large populations of inmates who are released into the general public every day. It is to the benefit of society as a whole to ensure that those tasked with protecting it are psychologically equipped. According to the Substance Abuse and Mental Health Service Administration (2015), positive self-image is recognized as an individual-

level protective factor that may contribute to psychological resilience. Determining whether significant links between levels of genders and races/ethnicities and correctional officers' psychological resilience existed may have resulted in identifying individual-level protective factors that may contribute to correctional officers' self-image. The data may assist in the development of therapeutic strategies that align with positive psychological interventions for correctional officers who are at higher risks by focusing on building their positive self-image.

Chapter 2 provides an in-depth review of this study's data search strategy, an explanation of the demographic factors investigated, and overview of research that has contributed to the understanding of psychological resilience. Included in Chapter 3 are the research design, participant information, the rationale for choosing the methods utilized in this study's design, and analyses.

Chapter 2: Literature Review

Introduction

Correctional officers have reported the psychological strain that accompanies working in high stress prison settings consistently over the last three decades (Andrews & Bonta, 2010; Castle & Martin, 2006; Cheek & Miller, 1983; Cullen, Link, Wolfe, & Frank, 1985; Dowden & Tellier, 2004; Gould et al., 2013; Keinan & Malach-Pines, 2007; Lambert, 2001; Morgan, Van Haveren, & Pearson, 2002; Senol-Durak et al. 2006). However, studies have yet to make apparent the positive role that specific demographics play in a correctional officer's psychological resilience. A long time ago researchers identified that prison correctional officers face daunting working environments that entail potential psychologically damaging work characteristics (Dollard & Winefield, 1995). These work characteristics include highly stressful demands and low control that present themselves in many scenarios. Approximately 469,500 correctional officers in the United States are challenged with developing and maintaining psychological resilience as they strive to meet the demands of working in a high stress environment (Constantini et al., 2010; Gould, et al., 2013; Bureau of Labor Statistics, U.S. Department of Labor, n.d.). While minimal studies have investigated the relationship between work characteristics that are common in prison settings and psychological strain (Andrews & Bonta, 2010), less insight has been shed into correctional officers' effective coping strategies and the role of demographics.

This study's purpose was to investigate demographic factors that might contribute to the psychological resilience of correctional officers, and I focused on trying to

understand the roles that gender, educational levels, marital statuses, and race/ethnicities occupy in promoting good mental health among this population.

The literature review included published research related to stress causing factors found in prison settings, factors associated with psychological resilience, correctional officers' and their ability to identify the emergence of psychopathological symptoms, and correctional officers' susceptibility for developing psychological problems.

Literature Search Strategy

In order to ensure that the highest quality of data was compiled during the formation of this study, many EBSCO databases were utilized. The EBSCO databases included the following: Academic Search Complete, CINAHLPlus, PsychInfo, PsychArticles, PsychExtra, Sage Premier, SocINDEX, and Thoreau. This study was primarily focused on the most recent information published within the past 6 years; however, data retrieved from articles published as early as 1995 were included in order to explain the historical significance of the problem. Specific words and combination of words were used in conducting the search for this study: *psychological resilience; correctional officers; stress; stress causing factors, stress and work characteristics; high stress environments and conditions; psychological strain and officers;* and *work stressors.*

Research was also retrieved from search engines and websites that included the following: American Psychological Association; Bureau of Labor Statistics, U.S. Department of Labor; Google Scholar; and National Institute of Mental Health.

Theoretical Framework

The theoretical framework utilized during the development of this study was the stress-vulnerability model (Zubin et al., 1977), which details the APA's (2013) definition of resilience. Scholars historically have used the stress-vulnerability model the help identify the point at which an individual displays difficulty responding to and/or coping with adversity. This study was intended to provide insight into demographic factors that might have contributed to a correctional officer's ability to effectively respond to and/or cope with high stress demands in alignment with the APA's explanation of psychological resilience.

According to recent research that used the stress-vulnerability model's framework, many individuals began to experience psychopathological symptoms when exposed to stressful events and/or scenarios (Gibson et al., 2014). The stress-vulnerability model can be used in identifying the point at which an individual has become susceptible to stress because of deficient coping mechanisms (Gibson et al., 2014). Built on research that made apparent the devastating negative symptoms that entail the inability to feel pleasure (anhedonia), flat affect, and/or social withdraw (Ruhrmann, 2010), the stress-vulnerability model provides a framework for research efforts that concern factors that affect psychological resilience. Built on the theory that there may be certain factors that increase the chances of psychopathological symptoms emerging and other protective factors that decrease these chances, the stress-vulnerability model is suited perfectly for studies such as this one.

The high stress demands associated with correctional officers' daily assigned work duties may have damaging effects on their mental health states; however, by applying the work of Gibson et al. (2014), it is possible to gain further insight into those elements that contribute to an officer's psychological resilience. By investigating demographic factors, mental health professionals might gain the ability to gauge the risk of a correctional officer's susceptibility to stressful demands.

As the neurosciences continue to evolve with help of ever-emerging technology, it has become clear that there indeed exists a unique interplay between stress and potential factors that increase an individual's susceptibility to stress. These factors exist both inside and outside of the brain (Goh & Agius, 2010). By using the stress-vulnerability model and integrating what researchers know currently about predisposition to mental illness, this study had a strong foundation from which to investigate the role of demographic factors on psychological resilience. The stress vulnerability model examines the unique interplay between stress and an individual's vulnerability to stress. The theory defines two primary factors (stress and vulnerability) and focuses on their interaction. Earlier research explained stress as an individual's ability to adapt to or change to a life situation; however, in recent research the terms *adapt* and *change* have been used interchangeably with *respond* and *coping* (Gibson et al., 2014).

Stress Vulnerability Model: Intrinsic Vulnerability

Zubin and Spring (1977) focused on identifying and explaining the reason some individuals were more or less vulnerable to stress and acknowledged the existence of predisposition factors that affect susceptibility to stress. The model took into account the

interaction between two elements, the first of which the authors referred to as *intrinsic vulnerability*. Zubin and Spring (1977) explained intrinsic vulnerability as potential abnormal brain functional organization and suggested that humans may have inherited genetic predispositions to mental illness. Advances in neuro imaging have allowed researchers to infer that stress is regulated by hypothalamic neurons through a process called synaptic transmission (Xiu & Musad, 2009). The process entails the release of the neuro transmitter orexin by the hypothalamic neuron resulting in elevated stress levels (Xiu & Musad, 2009). Increased synapse activity involving orexin affects locomotor activity, arousal, cardiovascular response, and has also been linked to increased activity in the hypothalamus (Xiu & Musad, 2009). Zubin and Spring identified the potential for genetic predisposition factors to affect an individual's ability to adapt or respond to stress and is often utilized as the foundation for current stress and vulnerability research (Goh & Agius, 2010). Ultimately, researchers have a better understanding of the influence stress has on the brain because of Zubin and Spring's (1977) work; however, their theory also made apparent the potential influence that psychosocial stressors and mental illness have on stress and coping. It is important to note that findings have established that neuro imaging does not stand alone in diagnosing psychiatric illness and that in most cases a bio-psychosocial approach is necessary.

Stress Vulnerability Model: Psychosocial Stressors

While there has been emergent information to substantiate the biological changes that occur as a result of stress, the unique interplay between psychosocial stressors and neuro activity has been the focus of much research. The stress vulnerability model

explained psychosocial stressors may consist of interpersonal and occupational stressors (Zubin, 1977). The model made apparent the importance of examining both vulnerability and stressors in order to determine the potential for psychopathology (Goh & Agius, 2010). Psychosocial stressors have become the focus of much research in recent years, and efforts have identified that stress has indeed contributed to the development of psychosis (Ho, Andreasen, Dawson, & Wassink, 2007). Specifically, the stress vulnerability model identified potential mental illnesses that may have resulted from the interaction of intrinsic vulnerability and psychosocial stressors. Stressors in the environment may have increased an individual's respective biological vulnerability (Xiu & Masud, 2009); however, many individuals have developed and maintained effective coping mechanisms that contributed to their ability to ward off any potential psychopathology. Zubin and Spring (1977) explained that the influence of psychosocial stressors on an individual's intrinsic vulnerability may have lessened if his or her psychological resilience were strengthened. Current researchers have used the stress vulnerability model to further investigate biological vulnerability (intrinsic vulnerability) and concluded that improving psychological resilience can have a significant impact on responding to and/or coping with psychosocial stressors (Stress Vulnerability Model of Co-occurring Disorders, 2008).

Stress Vulnerability Model: Psychological Resilience

Authors of recent studies have explained psychological resilience as protective factors and processes that affected an individual's ability to cope with stress (Grych, Hamby, & Banyard, 2015). Protective factors may be utilized to respond to a variety of

diverse intrusions that presented themselves throughout life; however, most research efforts investigated protective factors as they pertain to diverse forms of exposure to violence (Houston & Grych, 2015). Masten (2011) posed that in order to gain the best insight into psychological resilience it was necessary to have a thorough understanding of the individual's life and the protective factors that were present at the point when the stressor(s) emerged. Three main factors were analyzed and included the type of stressor(s), the individual's perceived risk, and the individual's protective factors at the time of the intrusion (Masten, 2011; Rutter, 2012). Establishing individuals' psychological resilience entailed much more than merely investigating their reaction to the stressful event(s); it entailed a thorough examination of the constellation of factors that contributed to the process of adaptation. Particular attention was focused on identifying elements that contributed to the maintenance of healthy functioning at the time the stressor was occurring. These elements have unique interplays that emerged within various populations after the intrusion (Masten, 2007). The elements that contributed to responding to and/or coping with stress included a variety of intrinsic and extrinsic factors, many of which began to form during formative years (Luthar, Cicchetti, & Becker, 2000; Xiu & Masud, 2009).

The types of stressors may not be as important as the environmental contexts that were present at the time of their occurrences (Hamby & Grych, 2013). The context during the time the stressor occurred was examined as carefully as the incident itself (Grych et al., 2015). Pertaining to the environmental context that exists at the time of the stressor, Grych et al. (2015) stated the need for further understanding into psychological

resilience. According to Park (2010), when the stressor was identified, the individual immediately engaged in a common thought process that attempted to make sense of the incident; however, Grych et al. stated “efforts to make meaning of stressful events do not invariably improve wellbeing” (p. 347). The stressor excited the individuals’ desire to determine how the intrusion would affected him or her. In alignment with the work of Bronfenbrenner’s (1977) social-ecological framework, the interruption of healthy functioning after the stressor had occurred may be attributed to the interplay between individuals and their relationships with family, peers, and community.

Psychological Resilience: Gender and Race/Ethnicity

Research studies have explained the importance of examining age as it pertains to psychological resilience, and in recent years these studies focused on the crucial roles that gender and race/ethnicity occupy during the maintenance of healthy psychological functioning over a person’s life (Kwong, Du, & Xu, 2015). Psychological resilience was affected by race/ethnic discrimination and may have contributed to the depletion of psychological reserves due to chronic exposure or exposure to a major traumatic discriminatory episode (Pascoe & Smart Richman, 2009; Williams & Mohammed, 2009). This current study was concerned with identifying the role of specific demographics as they may have related to correctional officers' psychological resilience. This study's demographic questionnaire included gender and race/ethnicity for the sole purpose of investigating their potential roles related to psychological resilience. Understanding that it is possible to achieve positive psychological growth resulting from a stressful event, should the correct environmental context at the point of its emergence be present

(Tedeschi & Calhoun, 2004), may be the key in examining the role of gender and race/ethnicity as they pertain to the stressor(s). Psychological resilience occurs when mental health has been preserved despite the intrusion of the traumatic event (Zoellner & Maercker, 2006). When discrimination between gender and race/ethnicity and psychological resilience were investigated, the results showed prevalence in the development of ineffective coping strategies that included unhealthy behaviors (substance abuse and alcohol abuse; Borrell et al., 2010). Individuals' psychological resilience has been less capable of sustaining healthy functioning after a stressful event has occurred if they have been exposed to chronic discrimination and/or a major discriminatory event (Luo, Xu, Granberg, & Wentworth, 2012). It is important to note that individuals who have endured such discrimination are also at greater risk for developing depressive symptoms when compared to those who have not. These depressive symptoms may have been compounded by the unhealthy coping strategies they employed (Luo et al., 2012).

Psychological Resilience: Marital Statues

The decision to include marital status in this study was made in an effort to gauge the risk of a correctional officer's susceptibility to stressful demands and possibly provide insight into the role that this demographic plays in promoting psychological resilience. Studies on psychological resilience and marital status have published conflicting results because of the overwhelming factors that made up the social contexts that lead to the decision to marry, divorce, or remain single (Nelson, 1994). Wang and Repetti (2014) stated "there is relative lack of data on how depression is linked with support couple

behavior" (p. 865); however, they also wrote "support from a romantic partner, in particular, can play a critical role in how adults cope with stress and navigate the challenges in everyday life" (p. 864). Research also examined the psychological "relief" that occurs when individuals in unhealthy unions separate and/or divorce, (Gorlick, 1988; Mednick, 1987; Nelson, 1994) which has mitigated the assumption that divorce always results in added stress and lessens psychological resilience. Other studies that have investigated the interaction between married individuals and support processes suggested that job stress definitely influenced support transaction between couples (Schulz, Cowan, Cowan, & Brennan, 2004; Wang & Repetti, 2014).

The manner in which people responded to social interactions was in large part because of their cognitive, affective, and interpersonal functioning (Wang & Repetti, 2014) and was closely linked to their ability to maintain interpersonal relationships (Harvey & Pauwels, 2009). An investigation into the reciprocal nature of correctional officers' psychological resilience and interpersonal relationship functioning may have provided added insight into the role of the marital status demographics (Snyder & Lopez, 2009). Correlations between correctional officers' responses to social interactions, interpersonal relationships, and their psychological resilience might have afforded researchers the ability to identify additional protective factors that might be linked with different marital statuses.

Recent work on the marital status demographic as it pertains to correlations between relationship functioning and coping with employment-related stress showed significant findings. Buck and Neff (2012) investigated the manner in which stress

related to employment affected relationship functioning and found that work stress was indeed often associated with deficiencies in interpersonal relationship functioning and overall marital satisfaction. Individuals' self-regulatory depletion or failing psychological resiliency might overpower the desire to repair or salvage the marriage and may have ultimately ended with the dissolution of the marriage (Buck & Neff, 2012). Furthermore, the dissolution of marriages has historically been linked with external stressors, such as work related stress (Bolger, DeLongis, Kessler, & Wethington, 1989; Repetti, 1989; Schulz, et al., 2004). An investigation into the role of marital status and correctional officers' psychological resilience may have yielded significant findings. Specifically, this study sought to provide further information into how a correctional officers' marital status might have correlated with psychological resilience by investigating their ability to respond to and/or cope with work stress.

Psychological Resilience: Educational Levels

Research efforts have identified a significant correlation between academic success and psychological resilience in first year university students (Allan, McKenna, & Dominey, 2013). University students' capacity to respond to and/or cope with stress was a primary contributor to their psychological resilience (Allan et al., 2013). Inadequate psychological resiliency may be directly related to deficiencies in academic performance and/or a primary cause for limited or hindered academic progression (Yorke, 2000). While there exists a significant correlation between academic success and psychological resilience, many research efforts have identified significantly lower levels of psychological deficiencies in university populations when compared to populations who

have chosen not to attend higher level education (Monk, 2004; Roberts & Zelenyanski, 2002).

This study proposed the use of correctional officers' educational levels in order to potentially identify the role that this demographic plays in correctional officers' psychological resilience. In alignment with other research efforts that have suggested the types of stressors may not be as important as the environmental contexts that were present at the time of their occurrences (Hamby & Grych, 2013), research on academic success and progression as influenced by psychological resilience has identified the vital role of personal adaptability (Jimerson, Egeland, & Teo, 1999). The ability to adequately function while adapting to stressful environmental factors was directly linked to psychological resilience; (Luthar, 2006; Masten, Burt, & Coatsworth, 2006) therefore, it may have been possible that this demographic (educational level) might have an indicator of correctional officers' psychological resilience. Research has also explained the necessary role of examining contextual factors present at the time of the intrusion, (Masten, 2011; Rutter, 2012; Wang & Repetti, 2014) making it necessary to include the role of other demographic factors in an effort to gain insight into the unique interplays that may exist when examining correctional officers' psychological resilience. This study's motivation for including educational levels was geared towards identifying whether or not there were differences among levels of education and correctional officers' psychological resilience.

Future Research

Many factors contribute to correctional officers' psychological resilience. Investigations into the emergence of psychopathologies that result from correctional officer trauma continue to be needed. Future investigative efforts that focus on psychological trauma and specific psychopathologies could yield valuable information about effective coping strategies (Luo et al., 2012). The various potential interplays between trauma, contextual factors at the time of the intrusion, and psychopathology make future multi-factorial research necessary.

Research is also needed to gain a better understanding of the roles that cultural norms play in correctional officers' utilization of coping strategies and their reluctance to access mental health services following traumatic events (Grych et al., 2015). Literature has yet to adequately explain cultural norms and their influences on acceptable forms of expression pertaining to stress and coping (Grych et al., 2015). Factors such as allowable expressions during the process of responding to and/or coping with stress, as they relate to gender roles and the flexibility of these roles are in need of much more research (Grych et al., 2015).

Summary and Conclusions

This literature review provided information pertaining to many factors that affected psychological resilience and has made apparent protective factors and processes that affected individuals' ability to cope with stress (Grych et al, 2015; Houston & Grych, 2015). While previous research has identified possible protective factors that assist researchers to respond to and cope with stress, gaining a deeper understanding of

contextual factors (present at the time of the intrusion) and unique interplays between them has yet to be sufficiently investigated (Hamby & Grych, 2013).

Research efforts have been successful in identifying the need to take into account factors beyond the individual's perceived risk and include not only the types of stress but also protective factors that are in place at the time of the intrusion (Masten, 2011; Rutter, 2012). Zubin (1997) provided us the stress-vulnerability model that laid the foundation for much research that followed and advancements in neuro-imaging have broadened our understanding of factors associated with intrinsic vulnerabilities (Goh & Agius, 2010; Xiu & Musad, 2009); however, the application of this model has yet to be utilized when exploring correctional officers' psychological resilience. Since neuro imaging does not stand alone when identifying psychopathology, we are tasked with implementing a bio-psychosocial approach in order to advance knowledge pertaining to psychological resilience and/or stress and vulnerability (Myint, 2009). Zubin (1977) recognized the importance of examining interpersonal and occupational stress when trying to determine the point at which an individual is most susceptible to stress; however, it was very complex to examine the manner in which stress contributed to psychopathology that may include psychosis (Ho et al., 2007). While factors associated with psychosocial stressors may increase individuals' biological vulnerability (Xiu & Masud, 2009), an in-depth exploration of demographics as protective factors have assisted to expand our knowledge of psychological resilience. It was necessary to take into account a constellation of factors that affect an individual's psychological resilience (Rutter, 2012), the potential for unique

interplays between these factors (Masten, 2011) and the context present at the time of the intrusion (Hamby & Grych, 2013).

Researchers explained the importance of examining gender and race/ethnicity when investigating psychological resilience and the depletion of psychological reserves (Kwong et al., 2015; Smart Richman, 2009; Williams and Mohammed, 2009). As correctional officers struggle to protect themselves against the negative psychopathological symptoms that result from working in a highly stressful and volatile environment, (Andrews & Bonta, 2010) both their performance and mental health become highly susceptible to fatigue (McCraty et al., 2003). This study's investigation provided information associated with psychological resilience between races/ethnicities among correctional officers and psychological resilience between genders among correctional officers.

Wang and Repetti (2014) focused their efforts on investigating psychopathology (primarily depressive symptoms) and the manner in which support between individuals in relationships associated with stress and coping occurs; furthermore, they mention the minimal amount of data that exists in this area of research. Marital status may have played an important role in correctional officers' psychological resilience, as research has suggested that occupational stress and coping may be affected by the support found between couples (Schulz et al., 2004). Research has also found that the dissolution of some marriages might provide a sense of relief, (Gorlick, 1988; Mednick, 1987) and one can posit that less support for occupational stress would be found in unions with high levels of turmoil. The differences in psychological resilience between different marital

statuses among correctional officers has yet to be included in research efforts and this study's goal was to provide added information into the role of this demographic.

Researchers identified a positive correlation between academic success and psychological resilience, they established that university students' ability to respond to and cope with stress played a primary role in academic progress and achievement (Allen et al., 2013; Jimerson et al., 1999). Other researchers used comparative analysis between university students and individuals who were not attending higher level education, concluding that there existed less psychological deficiencies among university students (Monk, 2004; Robert & Zelenvanski, 2002). It has been suggested that the focus when investigating psychological resilience might be more appropriately placed on environmental factors at the time of the intrusion as opposed to the types of stress themselves. Maintaining focus on the environmental factors at the time of the intrusion when engaged in research efforts might allow researchers to gain a better understanding of the individuals' vulnerability to stress. Academic success and progression may be a prime indicator of higher levels of psychological resilience as indicated by the university student's ability to maintain functioning when responding to and coping with academic demands. Understanding that higher levels of educational achievement and progress may be indicative of less vulnerability to stress, and that the type of stress is not as important as the response and coping mechanisms in place, motivated this study to investigate the differences in psychological resilience between levels of education among correctional officers.

This literature review drew from research and explained high stress and potential negative psychological symptoms associated with correctional officers (Brough & Williams, 2007; Senol-Durak et al., 2006). The stress-vulnerability model has been utilized as a basis for investigating the role of demographics as they pertain to correctional officers' psychological resilience, the researcher for this study identified specific demographic factors that might have contributed to a correctional officer's ability to effectively respond to and cope with occupational adversity. Emphasizing positive psychology this study employed the stress-vulnerability model while maintaining focus on the manner in which demographic factors might strengthen psychological resilience among correctional officers. In order to gain insight into the psychological well-being of those tasked with keeping society safe both contextual and process factors must be taken into account. Understanding the role that demographics play in correctional officers' psychological resilience is fundamental when determining the point at which they begin to experience psychopathology.

Chapter 3: Research Method

Introduction

This study's purpose was to investigate demographic factors that might have contributed to the psychological resilience of correctional officers. The role of the independent variables of marital statuses, levels of education, races and ethnicities, and genders on the dependent variable of correctional officers' psychological resilience have yet to be adequately researched. This study focused on identifying the role of specific demographics as they may have related to correctional officers' psychological resilience. This study's demographic questionnaire included gender and race/ethnicity for the sole purpose of investigating their potential roles related to psychological resilience. This study did not include any demographic factors that should be used for screening and/or profiling purposes. This chapter entails a discussion of this study's research design, the methods utilized for gaining appropriate samples, a detailed explanation of the validity and reliability of the instruments utilized during analyses, and procedures for participant recruitment and data collection. This chapter concludes with a thorough explanation of the ethical procedures that were developed and maintained in order to ensure the well-being of this study's participants.

Research Design

This study's implementation of a nonexperimental research design was appropriate as it sought to investigate the potential relationship between more than two variables (Creswell, 2014). I used a two-way ANOVA in order to make apparent any significant differences between groups using four categorical demographic factors

(marital statuses, levels of education, races/ethnicities, and genders). Implementation of a two-way ANOVA was selected in order to identify if demographic factors and/or combinations of demographic factors played significant roles in correctional officers' psychological resilience (Creswell, 2014). Correctional officers' information gathered via Internet and mail-in surveys showed the manner in which demographic factors were not related to their psychological resilience.

Methodology

Population

Approximately 469,500 correctional officers working in U.S. prisons face psychologically challenging environments on a daily basis (Constantini et al., 2010; U.S. Bureau of Labor Statistics, 2014). Participants in this study consisted of men and women employed as state prison correctional officers enduring such conditions. The CD-RISC-10 and the demographic questionnaire were used as means to collect participant data via the Internet and US Postal Service. The Walden University Internal Review Board approval number for this study is 09-26-16-0233590.

Sampling and Sampling Procedures

This study employed maximum variation sampling in order to capture a wide range of psychological resilience among correctional officers. This type of sampling is referred to as purposive and is best suited for quantitative research intended to investigate specific characteristics of a population (Frankfort-Nachmias & Nachmias, 2008). Maximum variation sampling was used in this study to investigate the potential role(s) of four demographic characteristics (marital status, gender, race/ethnicity, and level of

education) on the psychological resilience of correctional officers. This type of sampling allows researchers the opportunity to collect data from a wide range of characteristics within a sample. Correctional officers were asked to participate in this study through recruitment efforts that included online and in-person invitations (Appendix A). Correctional officers were accessed through online community groups that allow members of the Texas Department of Criminal Justice (TDCJ) and the California Department of Corrections and Rehabilitation (CDCR) to interact with one another. As the researcher, I was a member of the Region V TDCJ Facebook group, which had 1,048 correctional officer members as the time of data collection.

Participants were only considered eligible once they expressed interest via phone, text, e-mail, or written correspondence, and recruitment efforts took place before and after their work shifts. TDCJ and CDCR correctional officers were also recruited online via Facebook and were directed to complete the CD-RISC-10 online or request the information be sent to them by mail. Eligible participants were employed as correctional officers with the CDCR or the TDCJ. Participants were over the age of 18 and had successfully completed any necessary training academy requirements prior to gainful employment as a CDCR or TDCJ correctional officer. Potential participants were provided a link to the survey and/or mailed the survey along with the demographic questionnaire. Informed consent was included in the coversheet of the survey and explained the scope of the study. Participants provided implied consent before completing the study. The demographic questionnaire asked for the correctional officer's

marital status, level of education, race/ethnicity, and gender. Participants who were not eligible to participate in the study were notified via mail and/or online.

Sample Size Analysis

This study involved a sample size calculation to determine the appropriate sample size needed to ensure significant differences among correctional officers could be drawn (Field, 2013). However, specific factors that entail statistical power, confidence intervals, and effect size were taken into account before an appropriate sample size could be calculated. I ran one analysis with multiple groups based on the levels of each variable, and used the G*Power 3.1.9.2. application to calculate sample size. G*Power 3.1.9.2. application was developed by Buchner, Erdfelder, Faul, and Lang in 1992. The application allows researchers the ability to calculate general power analysis and determine appropriate sample sizes (Faul, Erdfelder, Lang, & Buchner, 2007). The specifications used to determine sample size when conducting a two-way ANOVA with the G*Power 3.1.9.2 application were based on 80% power and an alpha level of .05. Researchers have identified 80% power and an alpha level of .05 to be acceptable values when conducting this type of sampling for quantitative research (Burkholder, n.d.). An alpha level of .05 is indicative of the probability of committing a type I error (rejecting a null hypothesis that is true), and if the null hypothesis is true an alpha level of .05 is the probability of wrongly rejecting it (Frankfort-Nachmias & Nachmias, 2008; Sheperis, n.d.). A binary hypothesis test with a power level of 80% will allow for an acceptable probability of rejecting the null hypothesis should the alternate hypothesis be true (Burkholder, n.d.). An alpha level of .05 minimized this study's probability of making an

inaccurate decision when analyzing data (Burkholder, n.d.). The effect size in research similar to this one represents the magnitude of the observed effect and is indicative of the overall strength of the phenomenon as it pertains to the population (Field, 2013; Sheperis, n.d.). In studies similar to this one a total effect size of medium = .040 has been used (Field, 2013; Sheperis, n.d.). This study involved conducting two separate two-way ANOVA tests in order to investigate a total of four variables (marital status, gender, race/ethnicity, level of education) and their potential relationship with correctional officers' psychological resilience. A two-way ANOVA was used to investigate races/ethnicities (Black, Latino, or White), genders (male or female), and their potential relationship with psychological resilience.

Using G*Power 3.1.9.2 analysis for conducting a two-way ANOVA (fixed effects, special, main effects, and interactions with a statistical power of .80, Alpha of .05, and a medium effect size of .40), a total sample size of 52 participants was determined to be appropriate for drawing significant differences between two variables (race/ethnicity and gender) and within a total of six levels (Black, Latino, or White; male or female; Buchner, Faul, & Erdfelder, n.d.; Sheperis, n.d.).

A two-way ANOVA was also used to investigate marital statuses (married, not married) and educational levels (GED or high school diploma, Associates of Arts [AA] or Associates of Science [AS], bachelor's degree or beyond) and their potential relationship with correctional officers' psychological resilience.

Using G*Power 3.1.9.2 analysis for conducting a two-way ANOVA (fixed effects, special, main effects and interactions with a statistical power of .80, Alpha of .05,

and a medium effect size of .40), a total sample size of 52 participants was determined to be appropriate for drawing significant differences between two variables (levels of education and marital statuses) and within a total of six levels (GED or high school diploma, AA or AS, bachelor's degree or beyond; Buchner et al., n.d.; Sheperis, n.d.).

Instrumentation and Materials

The CD-RISC-10 (Campbell-Sills & Stein, 2007) was used to measure correctional officers' psychological resilience. Participants were also asked to complete a demographic questionnaire consisting of marital status, gender, race/ethnicity, and level of education (Appendix B).

The CD-RISC-10 was formulated using 10 items from the original Connor-Davidson Resilience Scale 25 (CD-RISC-25; Connor & Davidson, 2003). The CD-RISC-10 yielded very similar results as the CD-RISC-25 when measuring the psychological resilience of various populations, and has been used in studies that include various forms of trauma, Alzheimer's caregivers, adolescents, elders, posttraumatic stress disorder patients, university students, nurses, social workers, physicians, military medical personnel, medical students, and missionaries. The CD-RISC-10 has also been used in functional neuro imaging studies that included genotyping and neuro imaging to assess for treatment outcomes and has been deemed to have valid psychometric properties (Campbell-Sills & Stein, 2007). The CD-RISC-10 can be completed in approximately 5 minutes and requires participants possess the ability to read at a fifth-grade level and be at least 10 years of age. The scale itself can screen individuals for high, intermediate, or low psychological resilience and has been developed and tested as a predictor of outcome

to treatment with medication or psychotherapy, stress management, and resilience building (Campbell-Sills & Stein, 2007). The scale has also been used as a benchmark for measuring resilience treatment and as a marker for biological changes in the brain (Campbell-Sills & Stein, 2007).

Psychological resilience has been explained as a person's ability to maintain adequate levels of functioning, both emotionally and psychologically, as he or she encounters and deals with stressful intrusions (Bonanno, 2004). Researchers have posited that by investigating factors that influence risk and/or a person's susceptibility to stressors, it is possible to assess resilience quantifiably (Connor & Zhang, 2006). Using specific scales that take into account determinants of resilience (e.g., available resources, support systems, previous responses and/or coping with intrusions, etc.), it may be possible to measure subjective factors that affect resilience in prospective fashion (how a person will respond to future intrusion) and also a person's current resilience (Scali et al., 2012). The CD-RSIC-25 was developed in order to measure normal psychological resilience in clinical and nonclinical populations (Connor & Davidson, 2003) and is considered a multidimensional tool consisting of five distinct areas of measurement. Further research and validation of the scales in CD-RISC-25 led to the formation of the CD-RISC-10 (Campbell-Sills & Stein, 2007). The CD-RISC-10 has been used in various studies and has been deemed appropriate for a wide array of epidemiological work (Notario-Pacheco et al., 2011).

Researchers have determined that the CD-RISC-10 is an instrument that can be used to measure the psychological resilience as it pertains to a variety of response and

coping styles. According to Campbell-Sills and Stein (2007), "Overall, the 10 item CDRISC displays excellent psychometric properties and allows for efficient measurement of resilience" (p. 1019). Using a calculated Chronbach's alpha to measure the internal consistency of the CD-RISC-10, researchers have concluded that an alpha value of .85 indicated acceptable reliability (Campbell-Sills & Stein, 2007). Validity analysis has compared the Brief Symptoms Inventory (BSI) and the Childhood Trauma Questionnaire-Short Form (CTQ-SF) to the results of the CD-RISC-10 using a sample size of 131 participants (n = 131). Participants who completed the CTQ-SF yielded a mean of 34.4 (M = 34.4), Standard Deviation of 11.3 (SD = 11.3), and an overall Range of 25 -79 (R = 25-79). The same participants who completed the CTQ-SF completed the BSI and yielded a Mean of 14.8 (M = 14.8), Standard Deviation of 11.9 (SD = 11.9), and an overall Range of 0-53 (R = 0-53). Confirmatory factor analysis concluded that the CD-RISC-10 could be used to accurately moderate the relationship between the CTQ-SF and the BSI (Campbell-Sills & Stein, 2007). Using hierarchical regression that included the CTQ-SF and CD-RISC-10 on the first step and then the CTQ-SF x CD-RISC-10 on the second step, researchers posited that while the main effects model indicated "significance" (p. 1025), R = .51 $R2$ = .26 F (2, 127) = 22.76, P < .001, the regression model on the second step produced results that were "superior" (p. 1025), R = .56 $R2$ = .31 F (3, 126) = 19.00, P < .001 (Campbell-Sills & Stein, 2007).

Previous research efforts have used multivariate logistic regression in order to investigate the relationship(s) between age, education, trauma history, cancer, current psychiatric diagnosis, and psychological resilience by using the CD-RISC-10 (Scali et al.,

2012). Studies focused on the psychometric properties of the CD-RISC-10 have explained that there exists a negative association between having a psychiatric disorder and having psychological resilience (Scali et al., 2012). Scali et al. (2012) were successful in showing that lower levels of resilience were primarily due to heightened levels of anxiety and not mood disorders; however, using the CD-RISC-10, they explained that a positive association between resilience and a history of trauma existed.

Other studies that have investigated resilience using the CD-RISC and confirmatory analysis identified higher order resilience factors (Yu et al., 2011). Approximately one month after the devastating 2008 Sichuan earthquake, 2,914 Chinese youth participants were recruited to complete the CD-RISC, Multidimensional Scale of Perceived Social Support, Children's Depression Inventory, and the Screen for Child Anxiety Related Emotional Disorders. Yu et al. (2011) used a Cronbach alpha coefficient to measure the internal consistency and successfully investigated the hypotheses that higher social support would be associated with higher CD-RISC scores and higher levels of anxiety and depression would be associated with lower CD-RISC scores. The scales had the following reliabilities: positive correlation between "higher levels of social support" and higher levels of resilience (0.44), a negative correlation between "higher levels of anxiety" and resilience (-0.25), and a negative correlation between "depression" and resilience (-0.38) (Ps < .001; Yu et al., 2011). The CD-RISC played a vital role in assisting researchers to determine that differences between gender and age were to be considered influential demographic factors when investigating resilience following trauma (Yu et al., 2011).

Goins, Gregg, and Fiske (2012) investigated the resilience properties of the CD-RISC-10 as compared to the CD-RISC in a population of American Indians. Goins et al. posited that there existed a unidimensional factor structure between both measurements and that there were significant positive correlations between self-efficacy, self-mastery, social support scales and CD-RISC scores (mean of 75.7 and SD 13.0), and a significant negative correlation between depression and CD-RISC scores (mean of 83.0 and SD 13.4). Goins et al. reported that the CD-RISC scores and the CD-RISC-10 mean score of 33.5 (SD 6.2) resulted in an item correlation of 0.61 where Cronbach's alpha ranged from 0.88 to 0.93.

Cosco, Kaushal, Richards, Kuh, and Stafford (2016) identified a total of 5,909 studies to be used in a systematic review of measurements pertaining to resilience and concluded that 426 used resilience psychometrics, six of which were included in their final analysis. Research investigating the psychometric properties of the CD-RISC-10 as they pertain to older adults (i.e., > 60 years) determined that the scale possessed adequate levels of internal consistency, convergent/discriminant validity, and theoretical construct validity to be used in ongoing research endeavors (Cosco et al., 2016).

Data Collection and Analysis

This study utilized the Statistical Package for the Social Science (SPSS) software (v.23), with the alpha value set at .05, to analyze all data collected. Online participants were administered the CD-RISC-10 and demographic questionnaire using Facebook, LinkedIn, Yahoo Focus Groups, and Survey Money Audience. Participants were given the option of taking part in this study via U.S. Postal Service and mailed the CD-RISC-10

and descriptive data questionnaire after they had made contact and expressed interest via phone, text, e-mail, or written correspondence. Participants opting to participate via U.S. mail would have been provided free return mail services. This study utilized two separate Two-way ANOVA measures to investigate any differences between group and/or levels that may have existed (Field, 2013). The independent variables were the marital statuses, levels of education, races/ethnicities, and genders of correctional officers, and the dependent variable was correctional officers' psychological resilience.

The first Two-way ANOVA was used to investigate a total of six levels between both variables. The null hypothesis for this Two-way ANOVA was that there are no differences between the independent variable levels (Black, Latino, or White; male or female) and their relationship to correctional officers' psychological resilience. The alternative hypothesis for this Two-way ANOVA was that there are differences between the independent variable levels (Black, Latino, or White; male or female) and correctional officers' psychological resilience. In both the null and alternative hypotheses the researcher used an alpha value of .05. The researcher used a Two-way ANOVA F-Distribution in order to analyze the degrees of freedom to determine the critical value to compare the test statistic to. The degrees of freedom between groups and within groups were determined in order to identify the critical F-Value. In order to identify the degrees of freedom between groups the researcher took the total number of variables in this Two-way ANOVA (2) minus one which resulted in a degrees of freedom between groups equal to one. In order to determine the degrees of freedom within groups the researcher

took the total number of levels (6) minus the total number of variables (2) which resulted in a degree of freedom within equal to four.

To determine the total degrees of freedom for this Two-way ANOVA the researcher added both the degrees of freedom between groups (1) and the degrees of freedom within groups (4) and arrived at a total degrees of freedom for this Two-way ANOVA equal to five. The researcher used the F-Distribution in order to determine F-Critical value where the numerator was equal to the degrees of freedom between groups (1) and denominator was equal to the degrees of freedom within groups (4) to arrive at a F-Critical value equal to 4.05. In order to calculate the sum of squares deviation from the mean for the total variability the researcher calculated the mean for each variable and then calculated the grand mean (sum of all the scores in each variable divided by total scores). Once the researcher calculated both the mean for each variable and the grand mean, the researcher then calculated the total sum of squares by squaring the sum of each score minus the grand mean. In order to calculate the sum of squares within groups the researcher subtracted the sum of the squared deviations within each group from the mean of the variable and added them. In order to find the sum of squares between groups the researcher took the sum of squares total minus the sum of squares within. In order to calculate the variance between groups (mean squared between groups) the researcher divided the sum of squared between groups by the degrees of freedom between groups (1). In order to calculate the variance within groups (mean squared within groups) the researcher divided the sum of squares within groups by the degrees of freedom within groups (4).

In order to calculate the F-Value for the data set the researcher divided the variance between groups (mean squared between groups) by the variance within groups (mean squared within groups). The researcher then compare the F-Value to the F-Critical value in order to determine whether or not to reject the null hypothesis that stated that there were no differences between the independent variable levels (Black, Latino, or White and male or female) and their relationship to correctional officers' psychological resilience.

This second Two-way ANOVA also investigated a total of six levels between two variables. The null hypothesis for this Two-way ANOVA is that there were no differences between the independent variable levels (GED or high school diploma, AA or AS, Bachelors of Arts [BA] or bachelor's degree or beyond) and their relationship to correctional officers' psychological resilience. The alternative hypothesis for this Two-way ANOVA was that there were differences between the independent variable levels (GED or high school diploma, AA or AS, bachelor's degree or beyond, and married or not married] and correctional officers' psychological resilience. In both the null and alternative hypotheses the researcher used an alpha value of .05. The researcher used a Two-way ANOVA F- Distribution in order to analyze the degrees of freedom to determine the critical value from which to compare the test statistic. The degrees of freedom between groups and within groups were determined in order to identify the critical F-Value. In order to identify the degrees of freedom between groups the researcher took the total number of variables in this Two-way ANOVA (2) and subtracted one which results in a degrees of freedom between groups equal to one. In

order to determine the degrees of freedom within groups the researcher took the total number of levels (6) minus the total number of variables (2) which resulted in a degree of freedom within equal to four. To determine the total degrees of freedom for this Two-way ANOVA the researcher added both the degrees of freedom between groups (1) and the degrees of freedom within groups (4) to arrive at a total degrees of freedom for this Two-way ANOVA equal to 5. The researcher used the F-Distribution in order to determine F-Critical value where the numerator was equal to the degrees of freedom between groups (1) and denominator was equal to the degrees of freedom within groups (4) to arrive at a F-Critical value equal to 4.05. In order to calculate the sum of squares deviation from the mean for the total variability the researcher calculated the mean for each variable and then calculated the grand mean (sum of all the scores in each variable divided by total scores).

Once the researcher calculated both the mean for each variable and the grand mean the researcher then calculated the total sum of squares by squaring the sum of each score minus the grand mean. In order to calculate the sum of squares within groups the researcher subtracted the sum of the squared deviations within each group from the mean of the variable and added them. In order to find the sum of squares between groups the researcher took the sum of squares total minus the sum of squares within. In order to calculate the variance between groups (mean squared between groups) the researcher divided the sum of squared between groups by the degrees of freedom between groups (1). In order to calculate the variance within groups (mean squared within groups) the researcher divided the sum of squares within groups by the degrees of freedom within

groups (4). In order to calculate the F-Value for the data set the researcher divided the variance between groups (mean squared between groups) by the variance within groups (mean squared within groups). The researcher then compared the F-Value to the F-Critical value in order to determine whether or not to reject the null hypothesis that stated that there were no differences between the independent variable levels (GED or high school diploma, AA or AS, bachelor's degree or beyond, and married or not married) and their relationship to correctional officers' psychological resilience.

Research Questions and Hypotheses

RQ1- Are there differences in psychological resilience between levels of education among correctional officers?

(DV-Psychological resilience, IV- Educational level)

$H_0$1 = There will be no difference in psychological resilience between levels of education among correctional officers.

$H_1$1 = Correctional officers with higher levels of education will have higher psychological resilience scores.

RQ2- Are there differences in psychological resilience between different marital statuses among correctional officers?

(DV-Psychological resilience, IV- Marital status)

$H_0$2 = There will be no differences in psychological resilience between different marital statuses among correctional officers.

$H_1$2 = There will be significant differences in psychological resilience between different marital statuses among correctional officers.

RQ3- Are there differences in psychological resilience between races/ethnicities among correctional officers?

(DV-Psychological resilience, IV- Race/Ethnicity)

$H_0$3 = There will be no differences in psychological resilience between races/ethnicities among correctional officers.

$H_1$3 = There will be significant differences in psychological resilience between races/ethnicities among correctional officers.

RQ4- Are there differences in psychological resilience between genders among correctional officers?

$H_0$4 = There will be no significant differences in psychological resilience between genders among correctional officers.

$H_1$4 = There will be significant differences in psychological resilience between genders among correctional officers.

Threats to Validity

Creswell (2014) explained two primary existent threats to validity that exist in quantitative research; internal and/or external factors that may affect the validity of analyses. Internal threats to this study consisted of the implementation of the CD-RISC-10 measurement and the demographic factors that were being examined; specifically, it would have been impossible to examine the extent to which one demographic factor solely influences resilience. This study focused on four specific demographic factors; however, because of the unique interplay that may have existed between these variables it was difficult to assume that one was not acting simultaneously with another to influence

correctional officers' psychological resilience. Internal threats to this study's validity were also present when examining the manner in which correctional officers were trained via their respective programs. The TDCJ and the CDCR have independent and distinguished training programs that are meant to prepare correctional officers for the scope of work duties that they perform. Criminal activity among inmate populations are similar systematic differences pertinent to responding to stressful situations may differ between systems. Participant selection and instrumentation may have also threatened the validity of this study due to unforeseeable factors that might have influenced a participant's desire and/or willingness to take part in this study.

In reviewing the potential external threats to validity (i.e. the generalizability of this study's results) it is apparent that information derived from this study will be applicable in a general manner. Due to the volunteer bias associated with this type of quantitative research and the two correctional systems (i.e. TDCJ and CDCR) where participants will be drawn from results may not be applicable to all U.S. correctional officers.

Ethical Protection of Human Participants

Ethical Considerations

All participants used in any capacity during this study had the opportunity to withdraw at any time. All participation was on a volunteer basis and ethical considerations were a primary focus that were maintained throughout this study's entirety. Informed consent is necessary when conducting any research on human participants. All volunteers taking part in this study were required to ensure their

understanding of how data collection would occur. Participants understood their right to withdraw at any time during this study, the efforts that were taken to ensure their confidentiality, and all the individuals who had access to participant information. At no time did this study implement or utilize any participant information, any unapproved method for analyses, and/or dissemination practices that were not fully approved by the Walden University Internal Review Board prior to inception. The Walden University Internal Review Board approval number for this study is 09-26-16-0233590.

All participation data was collected, stored, and protected in a confidential and anonymous fashion in accordance with well-established practices (Creswell, 2014). Participant information was stored online by utilizing a Survey Monkey password protected website and all password protected files was stored on one primary device. All participation data was stored online or in locked files. At no time was there be any information stored that could have been used to identify volunteer participants. The only individuals who had access to this study's participant information were this writer, this writer's dissertation chair and committee member.

Summary

This study was designed in order to investigate the potential relationships between demographic factors and correctional officers' psychological resilience. Online participants were administered the CD-RISC-10 and demographic questionnaire using Facebook, LinkedIn, Yahoo Focus Groups, and Survey Money Audience. Participants had the option of taking part in this study via U.S. Postal Service and would have been mailed the CD-RISC-10 and demographic questionnaire after they had made contact and

expressed interest via phone, text, e-mail, or written correspondence and provided implied informed consent. This study utilized two separate two-way ANOVAs to investigate any differences between groups and levels that may have existed. Independent variables investigated in this study were the marital statuses, levels of education, races/ethnicities, and genders of correctional officers, and the dependent variable was correctional officers' psychological resilience. Included in this chapter were the research design, rationale for using the design, data collection instruments used in the study, methods for conducting data analyses, internal and external threats to validity, and ethical considerations. Chapter 4 includes the data analyses results.

Chapter 4: Results

Introduction

The purpose of this study was to investigate whether or not there was a relationship between correctional officers' psychological resilience and four specific demographic factors. Quantitative methodology was used to investigate the independent variables of marital statuses, levels of education, races/ethnicities, and genders of correctional officers, and the dependent variable of correctional officers' psychological resilience. Two separate two-way ANOVAs were used to investigate between and within levels. The first two-way ANOVA was used to investigate a total of six levels between both variables. The null hypothesis for the first two-way ANOVA was that there were no differences between the independent variable levels (Black, Latino, or White; male or female) and their relationship to correctional officers' psychological resilience. The alternative hypothesis for the first two-way ANOVA was that there were differences between the independent variable levels (Black, Latino, or White; male or female) and correctional officers' psychological resilience. The second two-way ANOVA also investigated a total of six levels between two variables. The null hypothesis for the second two-way ANOVA was that there were no differences between the independent variable levels (GED or high school diploma, AA or AS, BA or bachelor's degree or beyond; married or not married) and their relationship to correctional officers' psychological resilience. The alternative hypothesis for the second two-way ANOVA was that there were differences between the independent variable levels (GED or high school diploma, AA or AS, bachelor's degree or beyond, and married or not married) and

correctional officers' psychological resilience. SPSS software (v.23) was used for analyses and computation. This chapter includes the descriptive characteristics of the sample, a discussion on data collection methods used, data analyses, and the results of the study as they relate to the research questions and hypotheses.

Descriptive Characteristics

All responses included in this research study were checked for consent, survey completion, and demographic questionnaire completion. A time frame of approximately 3 weeks was necessary to gain a sufficient number of participants to conduct this study. A total of 59 participants attempted to complete the CD-RISC-10 and demographic questionnaire; however, six participants did not respond to all 10 items on CD-RISC-10 and one participant did not respond to all items on the demographic questionnaire. All seven participants who failed to respond either to all items included in the CD-RISC-10 or to all questions included on the demographic questionnaire were excluded from this study.

A total of 52 participants completed all items on both the CD-RISC-10 and demographic questionnaire, and their responses where used during analysis. The overall sample that was used for this study consisted of 27 (51.92%) men and 25 (48.08%) women (Table 1). The sample for this study included 31 (59.62%) participants who identified themselves as married and 21 (40.38%) participants who identified as not married. Data related to races/ethnicities were derived from 16 (30.77%) participants who identified as Latino, 13 (25.00%) who identified as Black, and 23 (44.23%) participants who identified as White. Data related to levels of education were collected from 31

(59.62%) participants who reported that their highest level of education was a GED or high school diploma, 14 (26.92%) participants who reported their highest level of education was an AA or AS, and seven (13.46%) participants who reported t that their highest level of education was a BA or Bachelors of Science (BS) or beyond.

Table 1

Summary of Sample Characteristics (n = 52)

Characteristics	*N*	Percentage*
Gender		
Male	27	51.92%
Female	25	48.08%
Marital Status		
Married	31	59.62%
Not Married	21	40.38%
Education Level		
GED or High School Diploma	31	59.62%
Associates of Arts (A.A.) or Associates of Science (A.S.)	14	26.92%
Bachelors and Arts (B.A.) or Bachelors of Science (B.S.) or beyond	7	13.46%
Race/Ethnicity		
Latino	16	30.77%
Black	13	25.00%
White	23	44.23%

Data Collection

All data for this study were collected via the Internet with the use of Facebook, Yahoo Focus Groups, Survey Monkey Audience, and LinkedIn. No participants requested any information be sent to them via U.S. Postal Services. The CD-RISC-10 (Campbell-Sills & Stein, 2007) was the instrument used to collect data pertinent to correctional officers' psychological resilience, and a demographic questionnaire was used

to collect data pertinent to correctional officers' marital statuses, educational levels, races/ethnicities, and genders. Prior to data collection, all participants who completed the CD-RISC-10 and demographic questionnaire were provided information about the types of questions, the approximate time it would take to respond to CD-RISC-10 and questionnaire prompts, and the purpose for conducting this research.

Data Analysis

Prior to examining whether there were any significant relationship(s) between demographic factors and correctional officers' psychological resilience, the mean scores associated with each demographic variable were calculated. Univariate tests were used to identify any significant differences in psychological resilience mean scores that existed between independent variable levels and are represented in Table 1 and Table 2. The independent variable gender yielded no significant differences between the psychological resilience mean scores of males and females. Overall, male correctional officers reported a slightly higher level of psychological resilience ($M = 30.421$) than female correctional officers ($M = 28.770$). Examining the resiliency means of male and female correctional officers and their respective race/ethnicity (Black, Latino, or White) yielded that Latino females reported the highest resiliency ($M = 32.500$), followed by Latino males ($M = 31.300$), White males ($M = 30.462$), Black males ($M = 29.500$), Black females ($M = 27.111$), and White females ($M = 26.700$). Correctional officers' races/ethnicities and genders resiliency means can be seen in Table 2.

Table 2

Means: Correctional Officers' Races/Ethnicities & Genders

Source	LF	LM	WF	WM	BF	BM
	M	*M*	*M*	*M*	*M*	*M*
Resilience	32.500	31.300	26.700	30.462	27.111	29.500

Note. LF-Latino Females; LM-Latino Males; WF-White Females; WM-White Males; BF-Black Females; BM-Black Males.

Overall married correctional officers reported a slightly higher level of psychological resilience ($M = 29.065$) than correctional officers who were not married ($M = 30.585$); however, the differences in means were not large enough to be considered significant. Examining the resiliency means of married and not married correctional officers and their respective educational levels (AA, AS, or BA, BS, and beyond) yielded that correctional officers who were not married with an educational level of BA, BS, or beyond reported the highest resiliency ($M = 33.000$); followed by correctional officers who were married with an educational level of AA or AS ($M = 30.556$), correctional officers who were not married with an educational level of GED or high school diploma ($M = 30.154$), correctional officers who were not married with an educational level of AA or AS ($M = 28.600$), correctional officers who were married with an educational level of a GED or high school diploma ($M = 28.389$), and correctional officers who were married with an educational level of BA, BS, or beyond ($M = 28.250$). Correctional officers' marital statuses and levels of education resiliency means can be seen in Table 3.

Table 3

Means: Correctional Officers' Marital Statuses & Levels of Education

Source	M/B	NM/B	M/A	NM/A	M/HS	NM/HS
	M	*M*	*M*	*M*	*M*	*M*
Resilience	28.250	33.00	30.556	28.600	28.389	30.154

Note. M/B- Married with a B.A. or B.S. and Beyond; NM/B- Not Married with a B.A. or B.S. and Beyond; M/A- Married with A.A. or A.S.; NM/A- Not Married with A.A. or A.S.; M/HS- Married with a high school diploma or G.E.D.; NM/HS- Not Married with a high school diploma or G.E.D.

Results of the Study

Research Questions and Hypotheses

The first two-way ANOVA was conducted with the independent variables of correctional officers' marital status (married or not married) and educational level (AA, AS, or BA, BS, and beyond), and the dependent variable of correctional officers' psychological resilience. The second two-way ANOVA was conducted with the independent variables of correctional officers' gender (male or female) and race/ethnicity (Black, Latino, or White), and the dependent variable of correctional officers' psychological resilience. Using G*Power 3.1.9.2 analysis for conducting this rwo-way ANOVA (fixed effects, special, main effects and interactions with a statistical power of .80, Alpha of .05, and a medium effect size of .40), a total sample size of 52 participants was appropriate for drawing significant differences between two variables (marital status and educational level) and within a total of six levels (married or not married; GED or

high school diploma, or AA, AS, or BA, BS, and beyond; Buchner et al., n.d.; Sheperis, n.d.).

RQ1- Are there differences in psychological resilience between levels of education among correctional officers? (DV-psychological resilience, IV- educational level)

$H_0$1 = There will be no difference in psychological resilience between levels of education among correctional officers.

$H_1$1 = Correctional officers with higher levels of education will have higher psychological resilience scores.

Correctional officers' levels of education were included as a factor in a two-way ANOVA to investigate the relationship between this demographic factor and correctional officers' psychological resilience. The *F* value of .197 was less than the *F*-Critical value of 4.05 and resulted in a failure to reject the null hypothesis. The *P*-value (.822) was greater than .05, which indicated that the finding was not significant. Subset psychological resiliency means increased with higher educational levels among correctional officers (GED or high school diploma [$M = 29.13$]; AA, AS, or BA, BS, and beyond [$M = 29.86$]; BA, BS, and beyond [$M = 30.29$]) and are represented in Table 4; however, the increases were not large enough to be considered significant.

Table 4

Means, Std. Error, and F Statistics: Correctional Officers' Educational Levels

Source	GED or HS		A.A. or A.S.		B.A. or B.S. or Beyond		ANOVA *test*
	M	*Std.*	*M*	*Std.*	*M*	*Std.*	*F(df)*
Resilience	29.13	4.493	29.86	6.666	30.29	3.904	.197 (1,4)

Note. Significance was indicated as follows: +$p < .10$; $p < .05$; $p < .01$.

RQ2- Are there differences in psychological resilience between different marital statuses among correctional officers? (DV-psychological resilience, IV- marital status)

$H_0 2$ = There will be no differences in psychological resilience between different marital statuses among correctional officers.

$H_1 2$ = There will be significant differences in psychological resilience between different marital statuses among correctional officers.

Correctional officers' marital statuses were included as a factor in a two-way ANOVA to investigate the relationship between this demographic factor and correctional officers' psychological resilience. The *F* value of .776 was less than the *F*-Critical value of 4.05 and resulted in a failure to reject the null hypothesis. The *P*-value (.383) was greater than .05, which indicated that the finding was not significant. Overall, correctional officers who were not married reported a slightly higher level of psychological resilience ($M = 30.585$) than correctional officers who were married ($M = 29.065$) as represented in Table 5; however, the differences were not large enough to be considered significant.

Table 5

Means, Std. Error, and F Statistics: Correctional Officers' Marital Statuses

Source	Married		Not Married		ANOVA *test*
	M	*Std.*	*M*	*Std.*	*F(df)*
Resilience	29.065	1.099	30.585	1.330	.776 (1,4)

Note. Significance was indicated as follows: +$p < .10$; $p < .05$; $p < .01$.

The second two-way ANOVA was conducted with the independent variables of correctional officers' gender (male or female) and race/ethnicity (Black, Latino, or White), and the dependent variable of correctional officers' psychological resilience. Using G*Power 3.1.9.2 analysis for conducting this two-way ANOVA (fixed effects, special, main effects and interactions with a statistical power of .80, Alpha of .05, and a medium effect size of .40), a total sample size of 52 participants was appropriate for drawing significant differences between two variables (gender and race/ethnicity) and within a total of siz levels (male or female; Black, Latino, or White; Buchner et al., n.d.; Sheperis, n.d.). Consequently, 27 (51.92%) participants were male, 25 (48.08%) participants were female, 13 (25.00%) participants were Black, 16 (30.77%) were Latino, and 23 (44.23%) participants were White.

RQ3- Are there differences in psychological resilience between races/ethnicities among correctional officers?

(DV-Psychological resilience, IV- Race/Ethnicity)

$H_0$3 = There will be no differences in psychological resilience between races/ethnicities among correctional officers.

$H_1$3 = There will be significant differences in psychological resilience between races/ethnicities among correctional officers.

Correctional officers' races/ethnicities were included as a factor in a Two-way ANOVA to investigate the relationship between this demographic factor and correctional officers' psychological resilience. The *F* value of 2.638 was less than the *F*-Critical value of 4.05 and resulted in a failure to reject the null hypothesis. The P-value (.082) was greater than .05 which indicates that the finding is not significant. Subset psychological resiliency means were not significantly different between correctional officers' races/ethnicities [Black (*M* = 27.85); White (*M* = 28.83); Latino (*M* = 31.75)] and are represented in Table 6.

Table 6

Means, Std. Error, and F Statistics: Correctional Officers' Educational Levels

Source	Black		White		Latino		ANOVA *test*
	M	*Std.*	*M*	*Std.*	*M*	*Std.*	*F(df)*
Resilience	27.85	1.440	28.83	1.088	31.75	1.238	.082 (1,4)

Note. Significance was indicated as follows: +$p < .10$; $p < .05$; $p < .01$.

RQ4- Are there differences in psychological resilience between genders among correctional officers?

$H_0$4 = There will be no significant differences in psychological resilience between genders among correctional officers.

$H_1$4 = There will be significant differences in psychological resilience between genders among correctional officers.

Correctional officers' genders were included as a factor in a Two-way ANOVA to investigate the relationship between this demographic factor and correctional officers' psychological resilience. The *F* value of 1.326 is less than the *F*-Critical value of 4.05 and resulted in a failure to reject the null hypothesis. The P-value (.256) was greater than .05 which indicates that the finding is not significant. Overall male correctional officers reported a slightly higher level of psychological resilience (*M* = 30.421) than correctional officers who were not married (*M* = 28.770) as represented in Table 7; however, the differences were not large enough to be considered significant

Table 7

Means, Std. Error, and F Statistics: Correctional Officers' Marital Statuses

Source	Male		Female		ANOVA *test*
	M	*Std.*	*M*	*Std.*	*F(df)*
Resilience	30.421	1.044	38.770	.982	.256 (1,4)

Note. Significance was indicated as follows: +$p < .10$; $p < .05$; $p < .01$.

Summary

The analyses indicated that there are no significant differences in psychological resilience between correctional officers' educational levels, marital statuses,

races/ethnicities, and genders among correctional officers. Chapter 5 presents a summary of the results and findings of this study. Included in chapter 5 is an interpretation of this study's findings, a discussion of this study's limitations and social implications, and recommendations for future research.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This study's purpose was to investigate the potential relationship between correctional officers' psychological resilience and four specific demographic factors. Quantitative research methodologies were utilized to gather and analyze data collected via online survey and demographic questionnaire. The online survey included the CD-RISC-10, which assessed the psychological resilience of participants, and the demographic questionnaire, which retrieved data about participants' genders, marital statuses, races/ethnicities, and educational levels. The targeted data were collected, and I have provided a detailed account of the findings in this chapter. In this chapter, I also explain limitations of this study's design as well as recommendations for future research efforts.

Interpretation of Findings

This study provides information about relationships between four demographic factors and correctional officers' psychological resilience. The statistical analyses in this study indicated that there were no significant relationships between correctional officers' levels of education and their psychological resilience, correction officers' marital statuses and their psychological resilience, correctional officers' races/ethnicities and their psychological resilience, or correctional officers' genders and their psychological resilience.

Level of Education

Grounded in previous literature, this study included the hypothesis that correctional officers with higher levels of education would have higher psychological resilience scores. Previous research efforts focused on academic success and progression as influenced by psychological resilience had identified the vital role of personal adaptability (Jimerson et al., 1999). Studies have suggested that the way individuals respond to and/or cope with stressful intrusions are key when examining their ability to maintain effective levels of resilience, and that studying the types of stressors may be less important than focusing on individuals' responses and/or coping styles (Allan et al., 2013; Jimerson et al., 1999).

While research identified a significant correlation between academic success and psychological resilience in first year university students (Allan et al., 2013), this study's analyses showed that differences between correctional officers' levels of education and their psychological resiliency means were not significant. The responses and/or coping styles that assisted correctional officers to achieve academic success may not be as effective when dealing with stressful intrusions that occur inside prison walls. The lack of significant differences between correctional officers' levels of education and their psychological resilience may suggest that the type of stress that correctional officers face calls for different responses and/or coping strategies.

Marital Status

On the foundation that marriage may provide added social support, I formulated this study's hypothesis. The hypothesis that there would be significant differences in

psychological resilience between different marital statuses (married or not married) among correctional officers was not supported by this study. Previous research efforts posited that the reciprocal nature of correctional officers' psychological resilience and interpersonal relationship functioning may have provided added insight into the role of the marital status demographics (Snyder & Lopez, 2009). The dissolution of marriages has been linked historically with external stressors, such as work-related stress (Bolger et al., 1989; Repetti, 1989; Schulz et al., 2004). This study's analyses showed that differences between correctional officers' marital statuses and their psychological resiliency were not significant. Psychological resilience may not maintain a reciprocal nature when paired with correctional officers' interpersonal relationship functioning. While the work-related stressors correctional officers endure may influence the dissolution of marriages, correctional officers' marital statuses had no significant impact on their ability to respond to and/or cope with work related stress.

Race/Ethnicity

The hypothesis that there would be significant differences in psychological resilience between races/ethnicities among correctional officers was not supported by this study. Previous research posited that race/ethnic discrimination affected psychological resilience as these factors may contribute to the depletion of psychological reserves due to chronic exposure or exposure to a major traumatic discriminatory episode (Pascoe & Smart Richman, 2009; Williams & Mohammed, 2009). This study showed that there were no significant differences between the races/ethnicities entailed in this research as they pertained to correctional officers' psychological resilience. Correctional officers

belonging to minority races/ethnicities may be exposed to greater discriminatory acts and have experienced depletions of psychological reserves; however, in this study their psychological resilience maintained similar levels to White participants, who are not considered minorities.

Gender

The hypothesis that there would be significant differences in psychological resilience between genders among correctional officers was not supported by this study. Previous literature that focused on discrimination between genders and psychological resilience suggested the prevalence in the development of ineffective coping strategies in those who had been subjected to gender discrimination (Borrell et al., 2010). The difference between correctional officers' genders and their psychological resiliency means were not significant. Previous literature also suggested that exposure to chronic discrimination and/or a major discriminatory event resulted in deficiencies when responding to and/or coping with psychological stress (Borrell et al., 2010; Luo et al., 2012). This study's results suggested male and female correctional officers who participated in this study scored similar levels of psychological resilience, which may be indicative of their similar abilities to respond to and/or cope with stress (Campbell-Sills & Stein, 2007; Notario-Pacheco et al., 2011).

Limitations of the Study

Prior to the implementation of this study, limitations were identified and included factors pertinent to the generalizability of this study's findings, correctional officers' potential lack of Internet access, and the self-report nature of the CD-RISC-10 and

demographic questionnaire utilized to gather participant data. I analyzed data gathered from 52 participants from two correctional officer organizations that included the CDCR and the TDCJ. A major limitation to this study is that it did not involve investigating differences in psychological resilience between correctional officers who work for the CDCR versus correctional officers who work for the TDCJ. The relatively small sample size and two organizations that participants were drawn from has limited this study's generalizability. Furthermore, this study only included data drawn from correctional officers who work in the United States, and the data produced may not be applicable to correctional officers working outside of the country. Another limitation pertinent to the utilization of information yielded from this study is that it may only be applicable to correctional officers who work face-to-face with inmates and not those employed in positions that do not require direct interaction with inmates.

Correctional officers who did not have the necessary access or the ability to gain access to an online medium utilized in this study's data collection (e.g., Facebook, Survey Monkey Audience, Yahoo Focus Groups, LinkedIn) could participate via U.S. Postal Service mail correspondence; however, no participant chose this option. Due to the lack of participants utilizing the U.S. Postal Service option, my ability to analyze data from those officers who did not have Internet access was limited.

A limitation of this study was its small sample size, which could have resulted in a sampling bias error. This study's sample size may have resulted in a systematic distortion in measuring the true frequency of any phenomenon due to potential selection bias and limited random sampling of TDCJ and CDCR correctional officers. Participant

recruitment and data collection occurred over a relatively short amount of time (approximately 3 weeks), which could have potentially limited participation from correctional officers and potentially resulted in sampling process errors. Individuals who took longer than the approximate 3 weeks to decide to participate were excluded as this study had already achieved adequate participation to conduct univariate tests.

Recommendations for Future Research

One recommendation for future research efforts that are concerned with psychological resilience between different marital statuses may include interpersonal relationships and interpersonal functioning. Focusing on investigating correctional officers' interpersonal relationships and functioning could provide important information pertaining to the role that healthy support systems occupy in psychological resilience. A longitudinal type study is recommended to gain further insight into the way correctional officers' psychological resilience may fluctuate in alignment with their perceived interpersonal functioning and/or marital satisfaction.

Research is also needed to gain a better understanding of the roles that cultural norms and socioeconomic statuses play in correctional officers' utilization of coping strategies and their reluctance to access mental health services following traumatic events (Grych et al., 2015). Literature has yet to adequately explain cultural norms and their influences on acceptable forms of expression pertaining to stress and coping (Grych et al., 2015). While people in some cultures are more likely to seek mental health services should they feel it warranted, others may find it taboo and unaccepted. The organization, delivery, and financing of services may also contribute to potential correlation between

psychological resilience, socioeconomic statuses, and access/utilization of mental health services. Groups with limited social resources and unequal access to mental health services due to their minority statuses may have greater difficulty responding to and/or coping with work-related stress.

Implications for Social Change

This study was focused on investigating potential relationships between correctional officers' psychological resilience and four demographic factors. This study found that there were no significant differences among levels of education, genders, marital statuses, and races/ethnicities and correctional officers' psychological resilience. The social implication drawn from this study is that demographic factors should not be considered when determining whether correctional officers are psychologically resilient to perform the respective scope of work. The information gained from this study implies that the development of programs that improve correctional officers' resilience and prevent the onset of psychopathology should be focused on factors other than races/ethnicities, genders, marital statuses, and levels of education.

Social change entails an alteration or transformation of culture and social institutions over a period. This study's implication for social change is rooted in a foundation of equality between various demographics that include races/ethnicities, genders, marital statuses, and levels of education. It provides further evidence in support of a nonbiased mechanism that contributes to growth and strength by recognizing the value in diversity. The interaction of various demographic factors, such as those investigated in this study, provides a platform from which to acknowledge the

interdependence needed to grow and strengthen institutions such as our criminal justice system. This study provides evidence in support of the insignificant differences that exist between races/ethnicities, genders, marital statuses, and levels of education as they pertain to correctional officers' ability to perform their job duties. It supports the notion that the high turnover rate facing correctional institutions is not rooted in correctional officers' demographics, but may be more attributable to systematic issues that ultimately affect us all.

Conclusion

I conducted this study seeking to investigate the roles of gender, race/ethnicity, level of education, and marital status on correctional officers' psychological resilience. My motivation was to identify whether one demographic factor (or a combination of demographic factors) would have a greater association with psychological resilience than others. I used the stress-vulnerability model to help me identify the point at which correctional officers displayed difficulty responding to and/or coping with adversity. With this research, I sought to provide insight into demographic factors that might have contributed to a correctional officer's ability to effectively respond to and/or cope with high stress demands.

This study provided inconclusive evidence that any of the four demographic factors had a relationship to correctional officer's psychological resilience and reaffirms the need to promote equality among levels of educations, genders, races/ethnicities, and marital statuses when considering candidates' ability to perform correctional officers scope of work.

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Appendix A: Invitation to Participate in Study

My name is Manuel Villarreal, and I am a Ph.D. Psychology candidate attending Walden University.

There is currently research that has explored the topic of the psychological resilience of correctional officers; however, there exists minimal research that has examined the role of demographic factors on correctional officers' ability to respond and/or cope with stressful work situations. The aim of this research study is to investigate the role of four distinct demographic factors (marital statuses, levels of education, races/ethnicities, and genders) as they pertain to correctional officers' psychological resilience. This study's findings will help to inform future research efforts that target psychological treatment planning in an effort to develop and/or maintain healthy psychological resilience that may be affected by chronic exposure to working in volatile and high stress environments.

I am seeking to recruit a total of 52 volunteer participants that are currently employed as full time correctional officers. Eligible participants for this study will have successfully completed the California Department of Corrections and Rehabilitation (CDCR) or the Texas Department of Criminal Justice (TDCJ) training academies**.** In order to participate in this study all volunteers will be required to provide implied informed consent prior to completion of a demographic questionnaire and the Connor-Davidson Resilience Scale 10 (CD-RISC-10). Informed consent will be implied should you choose to participate in this study after reading the informed consent document. All data collected will be done so in a confidential fashion without the collection of any

information that could be used to identify any participants. Should participants choose to take part after reading the informed consent document they may do so online via SurveyMonkey, or via United States Postal service. Participant choosing to participate online will be provided access information to the SurveyMonkey link, and participants choosing to participate via the United States Postal service will be mailed the assessment instrument and demographic questionnaire along with a copy of this informed consent document.

This project has been reviewed by the Walden University's Research Review process (URR), and has fully gained the approval of the Walden University Institutional Review Board (IRB). If you have any ethical concerns or questions about this study or questions about your rights as a participant, please contact Walden University's representative Dr. Leilani Endicott via telephone at XXX-XXX-XXXX (for US based participants). If you are interested in taking part in this study, please contact me directly at XXX-XXX-XXXX or via email at XXXX@XXXX.com.

Thank you for your interest in this research.

Sincerely,
Manuel Villarreal, M.S.

Appendix B: Demographic Questionnaire

Instructions: Eligible participants for this study will have successfully completed the California Department of Corrections and Rehabilitation (CDCR) or the Texas Department of Criminal Justice (TDCJ) training academies**.** Please do not include any information that could be used to locate or identify you when returning any information (Do not provide a return address on the envelope provided). Please provide a response to each of the following questions by filling in the appropriate bubble:

1. What is your gender? Female O
   Male O

2. What is your current marital status? Married O
   Not Married O

3. What is your race/ethnicity?

   Latino O
   Black O
   White O

4. What is your highest level of education? GED or high school graduate O
   Associates of Arts (AA) or
   Associates of Science (AS) O
   Bachelor's Degree or
   Beyond Bachelor's Degree O

Appendix C: Permission to Use CD-RISC-10

Jonathan Davidson, M.D. <jonathan.davidson@duke.edu>
To
Manuel Villarreal
May 13 at 6:32 AM

Manuel - Thank you for your for email. I think that mailing is acceptable.

Best regards,

Jonathan

Hide original message

From: Manuel Villarreal <manuelvvillarreal@ymail.com>
Sent: Thursday, May 12, 2016 11:25 PM
To: Jonathan Davidson, M.D.
Subject: Re: Contact Form submitted

Dr. Davidson,
Thank you for your prompt reply. My university is asking if I have your permission to mail the CDRISC 10 to the participants in my study and also if I would be able to use the measurement online. I have already committed to using the CDRISC 10 and will be needing to assess approximately 300 participants.
Respectfully,
Manuel Villarreal

On Friday, April 8, 2016 7:36 AM, "Jonathan Davidson, M.D." <jonathan.davidson@duke.edu> wrote:

Dear Manuel:

Thank you for your inquiry. We would be pleased to provide the CD-RISC-10 for your research dissertation project and enclose two forms for completion and return. Once that is done, and payment of the $30 user fee has been made, we will email the scale and manual.

With good wishes,

Jonathan Davidson

From: do-not-reply@cd-risc.com <do-not-reply@cd-risc.com>
Sent: Wednesday, April 6, 2016 9:50 PM
To: mail@cd-risc.com
Subject: Contact Form submitted

Form details below.

Name: Manuel Villarreal
Email: manuelvvillarreal@ymail.com
Contact number: 9039484448
Message: I am a doctoral student working on my dissertation. I would like to use the CD-RISC-10 in order to measure the psychological resilience of US correctional officers. Please advise if there would be any issues if I were to request the assessment. Thank you

Reply, Reply All or Forward | More

(a) Re: Contact Form submitted(2)
Manuel Villarreal <manuelvvillarreal@ymail.com>
To
Jonathan Davidson, M.D.
Today at 5:08 PM
Dr. Davidson,
I apologize for continuing to request information; however, my IRB has requested that I obtain permission to use the CDRISC-10 online. If you grant me permission the assessment will be made available to online participants via SurveyMonkey.

Respectfully,
Manuel Villarreal

Show original message
Reply, Reply All or Forward | More
Jonathan Davidson, M.D. <jonathan.davidson@duke.edu>
To
Manuel Villarreal
Today at 6:59 PM
Dear Manuel:

Thank you for your email. The signed agreement is in fact confirmation that we have given you permission, but in case that is not sufficient for your committee,, I confirm through this email that you have permission to use the CD-RISC-10.

With kind regards,

Jonathan Davidson

Show original message
Reply, Reply All or Forward | More