

2022

## Stress on Correctional Officers in High Demand and Low Control Work Environments

Amy Whiting  
*Walden University*

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>



Part of the [Public Health Education and Promotion Commons](#)

---

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact [ScholarWorks@waldenu.edu](mailto:ScholarWorks@waldenu.edu).

# Walden University

College of Health Sciences and Public Policy

This is to certify that the doctoral study by

Amy Marie Whiting

has been found to be complete and satisfactory in all respects,  
and that any and all revisions required by  
the review committee have been made.

## Review Committee

Dr. Shanna Barnett, Committee Chairperson, Public Health Faculty  
Dr. Jennifer Gadarowski, Committee Member, Public Health Faculty  
Dr. Mary Lou Gutierrez, University Reviewer, Public Health Faculty

Chief Academic Officer and Provost  
Sue Subocz, Ph.D.

Walden University  
2022

Abstract

Stress on Correctional Officers in High Demand and Low Control Work Environments

by

Amy Marie Whiting

MPH, University of New England, 2018

BS, University of South Dakota, 2016

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Public Health

Walden University

November 2022

## Abstract

Many major health concerns can be caused due to stress that stems from the demands put upon a person from their job. Correctional officers can experience high demands from their job as well as little control due to on-the-job experiences, such as being assaulted by an inmate, witnessing an assault by an inmate on another correctional officer, or having a complaint filed against them by an inmate. The purpose of this study was to determine if there is a relationship between these experiences and stress-related symptoms, such as gastrointestinal issues, headaches, neck or back pain, difficulty concentrating, and more while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. The number of years at a correctional officer's post was used as a moderator to determine if exposure to assault and complaints would change the relationship with the outcome variable. To help understand this relationship, the job demand-control model was used as the theoretical framework. The data used for this study were from the U.S. Department of Justice regarding 515 correctional officers working within Massachusetts and Texas state prisons. A hierarchical regression analysis was performed to test the hypotheses and found having a complaint filed by an inmate was the only independent variable that showed significant results. The results of this study could result in positive social change through the use of prevention strategies that help correctional officers with coping mechanisms to help reduce stress levels and improve health outcomes after having a complaint filed against them. This study could also be used as the basis for further research to determine what other demands correctional officers may experience that cause them to have stress-related symptoms.

Stress on Correctional Officers in High Demand and Low Control Work Environments

by

Amy Marie Whiting

MPH, University of New England, 2018

BS, University of South Dakota, 2016

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Public Health

Walden University

October 2022

## Table of Contents

List of Tables .....	iv
Section 1: Foundation of the Study and Literature Review .....	1
Introduction.....	1
Background.....	2
Problem Statement.....	4
Purpose of the Study.....	5
Research Questions and Hypotheses .....	7
Framework .....	8
Nature of the Study.....	9
Literature Review Search Strategy .....	11
Theoretical Framework.....	12
Literature Related to Key Variables .....	16
Assault by an Inmate.....	17
Witnessing an Assault by an Inmate.....	21
Complaints by an Inmate .....	24
Stress-Related Symptoms .....	26
Number of Years at Post.....	29
Marital Status of the Officer .....	30
Age of the Officer.....	30
Sex of the Officer.....	31
Veteran Status of the Officer .....	32

Race or Ethnicity of the Officer.....	32
Officers Who Have Children .....	33
Definitions.....	34
Assumptions.....	35
Scope and Delimitations .....	35
Limitations .....	36
Significance.....	36
Summary and Conclusions .....	37
Section 2: Research Design and Data Collection .....	39
Introduction.....	39
Research Design and Rationale .....	39
Methodology.....	40
Sampling Procedures Used by Original Creators of the Data Set .....	40
Operationalization.....	41
Data Analysis Plan.....	44
Threats to Validity .....	47
Ethical Procedures .....	48
Summary.....	48
Section 3: Presentation of Results and Findings.....	50
Introduction.....	50
Accessing the Data Set for Secondary Analysis .....	50
Results.....	51

Descriptive Statistics.....	51
Statistical Analysis.....	54
Summary .....	61
Section 4: Application to Professional Practice and Implications for Social	
Change .....	63
Introduction.....	63
Interpretation of the Findings.....	63
Limitations of the Study.....	66
Recommendations.....	67
Implications for Professional Practice and Social Change .....	68
Conclusions.....	70
References.....	72



## List of Tables

Table 1. Operationalization of Variables .....	43
Table 2. Frequency and Percentages for all Variables.....	53
Table 3. Regression Statistics .....	58
Table 4. Variables in Hierarchical Regression Model .....	59
Table 5. Post-Hoc Regression Statistics .....	60
Table 6. Ad-Hoc Variables in Hierarchical Regression.....	61

## Section 1: Foundation of the Study and Literature Review

### **Introduction**

This study focused on the potential negative health effects that correctional officers may have due to a relationship between a correctional officer (a) being assaulted, (b) witnessing an assault, or (c) having complaints filed by inmates and how often they feel stressed-related symptoms. Many major health concerns can result from stress created by the demands of a person's job and work environment (Ricciardelli & Carleton, 2021). This can certainly be true when that work environment is filled with potential violence in the presence of employees that can create situations they cannot control, such as in correctional settings. Violent or negative contact with inmates can increase stress (James & Todak, 2018). This is considered a work hazard because an increase in stress can cause these stress-related symptoms or health-related issues, such as heart disease, gastrointestinal issues, and behavioral health disorders (Ricciardelli & Power, 2020). In this study, to understand how being assaulted by an inmate, witnessing another correctional officer being assaulted by an inmate, or having a complaint filed by an inmate, I examined whether there is a relationship between such incidents and how often correctional officers feel stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. These control variables were used to reduce any bias that may exist by evaluating the outcome with all things considered equal. I also reviewed the number of years a correctional officer has been at their post along with being assaulted, witnessing an assault, or having a complaint

filed as a moderating variable to see if the relationship with stress-related symptoms increased or decreased.

This section includes a background regarding violence in the correctional system and how this violence can cause adverse stress-related symptoms affecting correctional officers' health. The problem statement for the study, the purpose of the study, a review of the research questions with possible hypotheses, a description of the theoretical framework used, and the nature of the study are provided. I also present an exhaustive literature review that includes the strategy used to search for literature on this topic and theoretical constructs. Finally, there is a discussion of definitions, assumptions, scope and delimitations, limitations, and the significance of the study before the section ends with the summary and conclusions.

### **Background**

Although research on stress in the workplace has been performed in a variety of settings and with a variety of effects on employees, there have not been previous studies conducted to determine the relationship between correctional officers being assaulted, witnessing an assault, or having complaints filed against them by inmates and experiencing stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children or while moderating for the interaction between the correctional officer's time at their post and being assaulted, witnessing an assault, or having a complaint filed. Prior research has shown how experiencing or witnessing violence has negatively affected officers' sense of security and contributed to officers feeling burned-out by their job (Isenhart & Hostettler, 2020).

However, there appears to be very little literature in regard to how stress-related symptoms occur and affect correctional officers who have experienced or witnessed an assault or have had a complaint filed against them by an inmate.

Additionally, the framework used in this study, the job demand-control model, can demonstrate the demands and control correctional officers feel they have in their job. Studies have been performed on how high demands and low control over job functions can determine stress levels, but researchers have not specifically studied correctional officers who have experienced or witnessed an assault or had complaints filed against them by an inmate (Del Pozo-Antunez et al., 2018; Jalilian et al., 2019). Other research has examined how correctional officers' work environment can cause stress-related symptoms, such as cardiovascular disease, diabetes, gastrointestinal diseases, and hypertension (Evers et al., 2019). However, these are not the same types of stress-related symptoms reviewed in this study.

This current study can contribute to the knowledge from previous studies regarding how stress in the workplace affects correctional officers by filling the gap in the existing literature regarding the relationship between assault on a correctional officer, an officer witnessing another officer being assaulted, or having an inmate file a complaint against a correctional officer and stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children as well. Determining if there is a variance when adding in a moderating variable for the number of years a correctional officer has been at their post and the relationship with stress-related symptoms.

### **Problem Statement**

An officer being assaulted, witnessing an assault, or receiving a complaint filed against them could lead to stress-related symptoms causing adverse health issues for them. Contact with inmates, especially when violent, can increase stress (James & Todak, 2018). Increased stress can produce other health concerns, such as heart disease, gastrointestinal issues, and behavior health disorders (Ricciardelli & Power, 2020). According to the World Health Organization (2020), an employee is more likely to experience work-related stress when they are not in control of a situation, task, or responsibility. A correctional officer could experience this lack of control when working with violent inmates, which could potentially increase their stress levels.

Correctional officers face stress and violence in their jobs. There have been studies that delved into the effects of stress on correctional officers due to the serious concerns for officers' health, and this has led to increased studies on workplace adversity in prison settings (Evers et al., 2019; Jaegers et al., 2020). These increased studies have also found that correctional officers have much higher rates of stress and exposure to violence than individuals in other careers (Regehr et al., 2019). Due to these factors and concerns, it was important to build upon these studies to find out whether there is a relationship between certain experiences that a correctional officer has while on the job, such as being assaulted by an inmate, witnessing an assault on another officer by an inmate, or having complaints filed against them by an inmate, and how often the correctional officer experiences stress-related symptoms while controlling for the correctional officer's marital status, age, sex, veteran status, race or ethnicity, and if the

officer has children or moderating for the interaction of the correctional officer's time at their post.

### **Purpose of the Study**

I conducted this quantitative study to determine whether there is a relationship between a correctional officer who has been assaulted by an inmate, witnessed another officer being assaulted by an inmate, or had a complaint filed by an inmate against them, and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. This study also explored whether the interaction between the number of years a correctional officer has been at their post and these events had an effect on how often the officer experiences stress-related symptoms.

The outcome variable was how often (within the last 30 days) an officer has experienced stress-related symptoms, including headaches, stomach trouble or gastrointestinal problems, lost interest in sex or sexual pleasure, trouble getting to sleep or staying asleep, crying easily or feeling like crying, dizziness, heartburn, pain in the neck or lower back, bad dreams, being easily startled, and difficulty concentrating. Responses for each of these symptoms were rated as *never* (score of 0), *almost never* (with a score between 1 and 11), *sometimes* (with a score between 12 and 22), *fairly often* (with a score between 23 and 33), or *very often* (with a score of 34 and above), with each of the responses being totaled for a final score for each individual correctional officer. Due to the scale and scoring used, the outcome variable was considered ordinal.

The predictor variables consisted of the incidence of three different situations an officer may experience: (a) assault by an inmate since working in the department, (b) witnessed another officer being assaulted by an inmate within the last year, and (c) had a complaint filed against them by an inmate within the last year. These predictor variables were dichotomous with a *yes* or *no* response.

There were several control variables, including marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. Marital status, veteran status, and if the officer has children were dichotomous variables with a response of either *yes* or *no*. Sex was also dichotomous with a response of *male* or *female*. Age was measured as an interval-ratio variable with ages between 19 years old and 68 years old. The variable of race or ethnicity was categorical and nominal, with responses of *White*, *Black/African American*, *Hispanic*, *Asian/Other Pacific Islander*, or *American Indian/Alaskan Native*. I selected these control variables to make sure that other factors in a correctional officer's life did not influence the outcomes of the study. The expectation was that this would reduce bias by examining the outcome while considering all things being equal.

Finally, there was a moderating variable to show any interaction between the predictor variables and how long an officer has been at their post, which was answered by the participant in the form of total years. This variable was measured as interval-ratio. I selected this variable as a moderating variable to determine if the number of years a correctional officer is at their post affects how an officer experiences stress-related symptom.

### **Research Questions and Hypotheses**

RQ1: Is there a relationship between a correctional officer having been assaulted by an inmate, witnessing another correctional officer being assaulted by an inmate, or having a complaint filed by an inmate and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children?

*H<sub>0</sub>1*: There is no significant relationship between a correctional officer having been assaulted by an inmate, witnessing another correctional officer being assaulted by an inmate, or having a complaint filed by an inmate and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children.

*H<sub>a</sub>1*: There is a significant relationship between a correctional officer having been assaulted by an inmate, witnessing another correctional officer being assaulted by an inmate, or having a complaint filed by an inmate and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children.

RQ2: Is the relationship between a correctional officer having been assaulted by an inmate, witnessing another correctional officer being assaulted by an inmate, or having a complaint filed by an inmate and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or



ethnicity, and if the officer has children moderated by the number of years the correctional officer has been at their post?

*H<sub>0</sub>2*: There is no significant difference in the relationship between a correctional officer having been assaulted by an inmate, witnessing another correctional officer being assaulted by an inmate, or having a complaint filed by an inmate and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children when moderating for the number of years the correctional officer has been at their post.

*H<sub>a</sub>2*: There is a significant difference in the relationship between a correctional officer having been assaulted by an inmate, witnessing another correctional officer being assaulted by an inmate, or having a complaint filed by an inmate and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children when moderating for the number of years the correctional officer has been at their post.

### **Theoretical Framework**

In this study, I used the job demand-control model as the theoretical framework to understand the relationship between the demands of a job and the effect that the demands have on an employee's physical and psychological health due to the inability to control the demands put on them by their job (see Karasek, 1979). Stress can come in many ways and can be handled differently by each individual with dependencies being weighed by

an individual's circumstance. One of these circumstances include the individual's job and the complexities that come with it (Jalilian et al., 2019). In this study, the complexity of the job came in the form of potential violence that can occur.

In this study, I determined the demand by whether a correctional officer has been assaulted by an inmate, witnessed another correctional officer being assaulted by an inmate, or had complaints filed by an inmate. An assault or complaint by an inmate could happen at any time without warning, which could make the officer feel an increase in job demand (Akbari et al., 2017). For this reason, these experiences in the job made sense as the demand construct.

I determined the control construct for this study by how often an officer experiences stress-related symptoms, and the level of control was moderated by the number of years an officer has been at their post. The control construct of the job demand-control model is determined by the level of decision latitude an employee has (Jalilian et al., 2019). When a person does not feel in control of a situation, they can experience a greater amount of stress and stress-related symptoms (Ellison & Caudill, 2020). Therefore, the lack of decision latitude can create the stress-related symptoms felt by correctional officers.

### **Nature of the Study**

In this quantitative study, I conducted a secondary analysis of data collected the U.S. Department of Justice and deposited in the National Archive of Criminal Justice Data. The participants in the original study were correctional officers working within Massachusetts and Texas state prisons. The data included correctional officers that had

and had not experienced an assault, witnessed an assault, or had a complaint filed against them by an inmate. I used a correlation research design to determine the relationship between correctional officers who had been assaulted, witnessed an assault, or had a complaint against them filed by an inmate and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. This relationship was also tested by adding a moderating variable of how many years the correctional officer has been at their post to determine the interaction between the officer's tenure and being assaulted, witnessing an assault, or having a complaint filed can increase or decrease the stress-related symptoms the officer experiences.

The three predictor variables were if a correctional officer had been assaulted by an inmate, witnessed another correctional officer being assaulted by an inmate, and had a complaint filed by an inmate. The control variables were marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. The outcome variable was how often an officer experiences stress-related symptoms that was scored based on responses on specific symptom-related questions and how often the symptoms are felt. There was a moderating variable of how long an officer has been at their post.

Finally, I examined the data to understand whether there was a relationship between the predictor variables and the outcome variable. I began by determining which correctional officers have or have not experienced an assault, witnessed an assault, or had a complaint filed against them by an inmate. From there, I analyzed the data to determine if the officers who had experienced these events had stress-related symptoms while

controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. In addition, an analysis was performed to observe if the strength of this relationship changed by adding a moderating variable for how many years an officer has been at their post. I will discuss the data analysis process in detail in Section 2.

### **Literature Review Search Strategy**

To locate literature for this review, I conducted searches in the following search engines and databases: Google Scholar, ScholarWorks, ProQuest, Sage Journals, Springer, and Thoreau. Search terms used were *correctional officers attacked by inmates, correctional officers and complaints by inmates, witness to inmate attack on a correctional officer, watching fellow correctional officers be attacked, health concerns of officers after watching an inmate attack an officer, inmate attacks AND correctional officers OR prison employees OR prison guard OR corrections officers, correctional officers OR prison employees OR prison guard OR corrections officer AND inmate relationships, correctional officers OR prison employees OR prison guard OR corrections officer AND inmate violence, correctional officers OR prison employees OR prison guard OR corrections officer AND negative relationships AND inmates, correctional officers OR prison employees OR prison guard OR corrections officer AND negative relationships, aggressive personalities in inmates, aggressive inmates, correctional officers AND inmate complaints, inmate revenge against officers, receiving complaints at work, complaints from strangers, being assaulted at work, witnessing an assault at work, correctional officer AND tenure AND stress, stress AND tenure, stress-related symptoms, causes of stress-related symptoms, jobs that cause stress-related*

*symptoms, police officer stress, nursing AND healthcare stress, rescue worker stress, firefighters AND stress, co-worker complaints, service industry complaints OR assaults, mugging assaults, rideshare OR taxicab assaults, secondary traumatic stress, demand-control theory, control constructs, demand constructs, stress among married correctional officers, stress for employees who are married, stress for employees who have children, stress for employees who were in the military, veterans OR ex-military working as correctional officers, stress for minority employees, and age of an employee related to stress.* The searches were limited to articles published within the 5-year period of 2017 through 2022. I also searched websites of specific organizations and government agencies, including the World Health Organization, the Bureau of Labor and Statistics (BLS), and the Centers for Disease Control and Prevention.

The literature review included articles that were relevant to the variables in this research study. I chose multiple articles for their research regarding the health-related effects of violence and stress in the workplace, specifically for correctional officers. Articles regarding the theoretical framework were also included. However, I excluded articles published prior to 2017 (except those that discuss the history of the framework used), those that were not scholarly and peer-reviewed, studies about correctional facilities for youth, and studies focused on the health and well-being of inmates.

### **Theoretical Framework**

The theoretical framework used in this study was the demand-control model. I chose this model due to the imbalance of demand and control correctional officers experience throughout their workday. Karasek (1979) developed the demand-control

model. This model has been used most often for the study of occupational stress (Kain & Jax, 2010). The constructs of this framework, as it pertains to this study, are demand and control with the former consisting of the violence experienced by correctional officers, and the latter consisting of the stress-related symptoms the officer encounters based on these experiences. If there were to be a buffer between the demand, the buffer would be the control over the situation that will either be positive and produce less stress-related symptoms or will be negative and produce more stress-related symptoms (Kain & Jax, 2010). I used the demand-control model to help determine whether the control over an officer's work can reduce stress-related symptoms.

Jobs can require physical, mental, and emotional demands of an employee. These demands can cause strain on an employee that can result in negative health outcomes (Ricciardelli & Carleton, 2021). Some tasks and responsibilities of a job are within the employee's control, whereas other tasks and responsibilities do not allow the employee to have very much control. Jalilian et al (2019), who studied the demands that are put on hospital nurses, the stress levels associated with these demands, and the level of fatigue the nurses felt that affected their health, found that nurses had high psychological and physical job demands but low decision latitude leading to job stress and fatigue. Although nurses may have very different job demands than those of a correctional officer, the imbalance of these demands and control can affect any employee's health regardless of their role.

Another example of how the demand-control model can be used is from that of an accountant. While the career is dissimilar to a corrections officer, the use of the

constructs in this theory when applied to this role are easy to see and understand.

Accountants can also experience demands in their occupation that can affect their health (Del Pozo-Antunez et al., 2018). The demands in this case come from competition in the field, tight deadlines, and the importance that their position can hold over the finances of others (Del Pozo-Antunez et al., 2018). The control construct would be dependent upon the autonomy of the accountant and their ability to control their own workload, which gives them the perception of how it effects their health (Del Pozo-Antunez et al., 2018). The demand-control model could be applied to almost any job by exhibiting the effects that come from the amount of demand and the amount of control an employee feels in the job.

One additional construct to the demand-control model that researchers have used is the support construct. This construct relies on outside sources, such as family, friends, and/or coworkers (both peers and superiors; Del Pozo-Antunez et al., 2018). When support is low, this can cause additional strain for an employee, whereas more support will alleviate some of the strain felt by job demands (Ricciardelli & Carleton, 2021). In the correctional field, a study substantiated the support construct by finding that correctional officers felt more stress when there was little to no support from prison officials (Walters, 2020). The support construct was a variation of the demand-control model that I most often saw when reviewing the literature.

The difference between other jobs, such as nursing or accounting, and the position of a correctional officer is the issue of violence. The occupational stress that correctional officers experience comes from the risk factors caused by violence (Jessiman-Perreault et

al., 2021). Akbari et al. (2017) used Karasek's job demand-control model to show how officers at a correctional facility that held prisoners with more violent crimes felt higher job demands and lower job control compared to officers who worked in facilities that held prisoners of less crime or juveniles. The researchers found that the facility with prisoners from violent crimes posed a great deal of psychological pressure, which had a negative impact on health. This can cause an officer to feel they have little control over their work environment while at the same time feeling a high demand (Ellison & Caudill, 2020). These feelings coincide with the fact that a high risk of exposure to violence and threat of personal security exists when correctional officers are working with inmates (Skrabacz, 2020). This type of demand is seen in the corrections domain but may only sometimes be seen in the nursing domain and rarely in the accounting domain.

The control construct in this study was how violence, or demands of the workplace for correctional officers, effects their health through stress-related symptoms. Violence in the workplace can cause an officer to have increased cardiovascular functions, which are said to occur due to the body's response to meet increasing demands (Jessiman-Perreault et al., 2021). When the body is unable to meet these demands, it can result in health issues (Jessiman-Perreault et al., 2021). On the other hand, when an employee feels more control in their job, the body does not need to work as hard to meet the demands, thus decreasing stress and reducing negative health outcomes (Jessiman-Perreault et al., 2021). Unfortunately, correctional officers experience violence in the workplace, making it harder to control the physiological responses to the stress it causes.



A correctional officer may feel safer if they feel they are in control of a situation; however, this may not always be the case. Injuries and assaults can happen due to reasons that are in an officer's control, but they can also be out of an officer's control (Goulette et al., 2020). Correctional officers work in a confined environment with inmates in which the officer needs to maintain order (Baker, 2017). Unfortunately, the officers may feel stress due to being in this confined environment among individuals who are violent and find themselves in a situation where inmate-on-officer assaults occur (Baker, 2017). These are instances where a correctional officer has little to no control.

Loss of control can also bring feelings of insecurity. After a correctional officer has a traumatic event, such as being assaulted by an inmate or witnessing an assault by an inmate, they may lose their sense of security (Isenhardt & Hostettler, 2020; Mistry, 2017). Repeated experiences of this nature can lead to burnout, stress, and health issues (Isenhardt & Hostettler, 2020). These feelings of insecurity and exposure to traumatic events can only be experienced so many times before they start having an effect on an officer's health.

### **Literature Related to Key Variables**

The predictor variable in this study was in three forms: If a correctional officer has (a) been assaulted by an inmate, (b) witnessed an assault by an inmate, and (c) had a complaint filed against them by an inmate. I also included the number of years a correctional officer has at their post as a moderator while marital status, age, sex, veteran status, race or ethnicity, and if the officer has children were used as control variables.

### **Assault by an Inmate**

Assaults are becoming increasingly common in the workplace in many industries. The average number of assaults among all workers is 6.8 per 10,000 full-time employees (BLS, 2016). Educators are experiencing assaults at a rate of 13.9 per 10,000 full-time employees, with assaults by students making up 92% of nonfatal injuries (BLS, 2016). Health care practitioners experience assault at a rate of 13.9 per 10,000 full-time employees (BLS, 2016). However, health care support workers are the group of employees who experience assault at the second highest rate of 37.3 per 10,000 (BLS, 2016). Included occupations for health care support workers are nursing assistants, therapy aids and assistants, phlebotomists, and medical assistants (BLS, 2021). These numbers are quite significant but are not as sizeable as they are for those working in the corrections industry (BLS, 2016). According to the BLS (2016), protective service employees, which include correctional officers, experience assault at a rate of 68.4 per 10,000 full-time employees, which is nearly 85% more than the incident rate for health care support workers. This significant difference leads me to conduct this inquiry of correctional officers experiencing stress-related symptoms.

Correctional officers may have a strong probability of being assaulted while at work, which could create a traumatic event for them. The role of a correctional officer has one of the highest rates of injuries due to assaults and other violent acts by inmates (Liu & Taylor, 2018). Exposure to violence, such as assault, can be a contributing factor to mental health issues and overall health for those who experience it (Bogolyubova et al., 2017). In addition, the higher the number of traumatic events a person has in their life

can cause an increase in stress-related symptoms (Cividanes et al., 2019). This means that a traumatic event, such as an assault, can potentially cause stress-related symptoms that can have a negative impact on a person's health.

Correctional officers are not the only line of work where assaults can happen. For example, police officers are often injured on the job due to felony assaults that often lead to the police officer experiencing a stress-related disease (Price, 2017). While other rescue and response workers may work in dangerous positions, it is police officers who experience violent situations far more often (Ellrich & Baier, 2017). The roles of police officers and correctional officers share the similar experiences of assaults that bring about stress-related symptoms.

Rescue and response workers also find themselves in situations where they may be assaulted. When a rescue worker comes to a scene of an incident, the victim they are trying to help may become combative (Losoncz, 2018). Some patients have even attacked rescue and response workers with weapons (Maguire et al., 2018). These assaults have led to the rescue and response workers experiencing stress-related symptoms, such as sleep disorders, the inability to concentrate, chronic pain, and stomach problems (Behnke et al., 2019; Ntatamala, 2020). The relationship between assault and stress-related symptoms appears to be evident for rescue and response workers, showing the importance of further study into how significant the relationship is between assault and stress-related symptoms.

Combative patients can also be seen in the emergency room by emergency department health care professionals who can be assaulted by both patients and the

patients' relatives (La Torre et al., 2019). These experiences can disrupt the health care professional's physical and emotional well-being through health concerns caused by stress-related symptoms (Grant et al., 2020; Sen & Honavar, 2019). After experiencing these types of assaults, health care professionals were found to experience many stress-related symptoms, including headaches, fatigue, gastrointestinal disorders, sleep disorders, and back problems (Grant et al., 2020; La Torre et al., 2019; Sen & Honavar, 2019). Regardless of the occupation, violence in the workplace can create unhealthy outcomes through stress-related symptoms.

After being assaulted, an individual's mind and body may react in different ways. Sienkiewicz et al. (2020) found an association between experiencing traumatic events that included physical assault and sexual assault and an increase in rates of posttraumatic stress disorder and psychosocial distress as well as a decrease in physical health. Thurston et al. (2021) assessed similar associations between assault and an increase in stress-related symptoms. While some may have different experiences with the type of assault inflicted upon them, the ailments that affect them after the assault and beyond can also be quite different (Sienkiewicz et al., 2020). Experiencing assault may bring about different reactions in correctional officers as well.

The relationship between being assaulted and suffering from stress-related symptoms does not elude time. Even if a person was assaulted as a child, the stress-related symptoms may follow them into adulthood (Mukherjee et al., 2020). The relationship is made even stronger if the individual is also assaulted as an adult (Mukherjee et al., 2020). Stress-related symptoms can be experienced by individuals who

were physically assaulted while being bullied as either a child or an adult (Mukherjee et al., 2020). This means that someone who has been assaulted is at risk for these stress-related symptoms for their entire life (Sienkiewicz et al., 2020). Once assaulted, the victim of the assault may be so distressed that no amount of time can ever shake the associated results.

Sometimes an assault can be made by someone the victim does not even know through an attack such as a mugging. When someone is mugged, they can be physically assaulted by being beaten or attacked with a weapon (Jalel et al., 2021). After the mugging, the victim may experience stress-related symptoms, such as trouble falling asleep or staying asleep, and this insufficient sleep can also lead to other negative health outcomes (Agrawal et al., 2019). The victim may never see their attacker again, but they may have to deal with the effects of the encounter for a long time due to stress-related symptoms associated with the assault.

Individuals who work in the retail or service industry can also find themselves being assaulted by a customer or client. Department stores, gas stations, convenience stores, and hotels have many different people coming in and out of their business on a daily basis. When a customer is unhappy with their service or product, they may strike out through physical assault (Zhou et al., 2021). Most employers of service industry establishments consider customer satisfaction above the well-being of their employees (Mills & Owens, 2021). Brown et al. (2020) concluded that this kind of treatment to service employees by customers can have negative effects causing depression and

anxiety. This type of behavior shows that assault, no matter the situation, can cause negative health effects on the employee.

Another situation where an attacker can be unknown to an individual is in the transportation service where taxicab drivers or other rideshare providers are in a confined space with strangers. These employees can experience situations with their riders that can become dangerous and stressful (Bartel et al., 2019). Riders can become violent wielding knives or other weapons to assault the driver (Fowler, 2019). Physical encounters where the driver is assaulted by punches or slaps have occurred (Kelly, 2019; Kusumoto, 2019). These situations can cause the driver to experience stress and fatigue (Bartel et al., 2019). This is another way assault can affect the health outcomes for an employee.

### **Witnessing an Assault by an Inmate**

Correctional officers may have a strong probability of witnessing another officer being assaulted by an inmate which could create a traumatic event for them. The role of correctional officer has one of the highest rates of injuries due to assaults and other violent acts by inmates that a correctional officer can either experience firsthand or witness another officer experiencing (Liu & Taylor, 2018). Exposure to violence, such as witnessing an assault, can be a contributing factor to mental health issues and overall health for those who experience it (Bogolyubova et al., 2017). In addition, the higher number of traumatic events a person has in their life, can cause an increase in stress-related symptoms (Cividanes et al., 2019). This shows how an event, such as witnessing an assault, can potentially cause stress-related symptoms that can negatively affect a person's health.

Other careers could find an employee witnessing another person being assaulted. Doctors and nurses can also see violence through both physical and verbal threats or attacks, vandalism of the facility where they work, or even murder (Sen & Honavar, 2019). These experiences can disrupt the health care professional's physical and emotional well-being through health concerns such as trouble getting to sleep or insomnia (Grant et al., 2020; Sen & Honavar, 2019). Regardless of the occupation, violence in the workplace can create unhealthy outcomes through stress-related symptoms.

There are other stresses that can be experienced when witnessing an assault. Secondary traumatic stress occurs when someone witnesses someone else being assaulted, or when a person is taking care of a victim of violence (Benuto et al., 2019). Police officers and first responders experience secondary stress from the victims they come across on a daily basis (Morabito et al., 2020). This form of stress also causes stress-related symptoms such as the inability to sleep, depression, and physical ailments (Morabito et al., 2020). It may be difficult for a person to see another person being assaulted or witnessing the aftermath of violence.

Another view into secondary traumatic stress, or witnessing another's assault, can occur for people from other positions such as the health care field. Like police officers, who may not actually witness the violence as it takes place, someone who cares for others who have been victimized would not witness the violence either (Morabito et al., 2020). It was reported by health care professionals that they felt burned out and an overall decline in their health due to the secondary traumatic stress they endured from caring for their patients (Butler et al., 2017). Mental health counselors are another good example of

health care professionals who can suffer from secondary traumatic stress (Beckerman & Wozniak, 2018). This is especially true for mental health counselors specializing in domestic violence survivors and survivors of other violent experiences (Beckerman & Wozniak, 2018). Even if the event did not happen to an individual, they can still feel stress from witnessing the event firsthand or through another's reflection.

Police officers who work with another police officer as a partner may witness their partner being assaulted. Witnessing an assault of another officer is considered a critical incident (Price, 2017). The reason these are considered critical incidences is because the impact to the witnessing officer is so great and creates stress for that officer (Price, 2017). Witnessing an assault on someone you know or are close with can make the event even more terrific which could explain why an officer who witnesses their partner being assaulted can have strong stress-related symptoms (Ellrich & Baier, 2017). Correctional officers who work with the same individuals daily could have the same reaction to witnessing an assault on another officer.

While other jobs may have dangers, violence may not always be a possibility. Unfortunately, it is a possibility for correctional officers due to the high rate of injuries caused by the danger of violence through assaults and other violent acts by inmates (Liu & Taylor, 2018). This violence can be seen in the form of assaults on correctional officers as well as other inmates (McKendy et al., 2021). The duties of a correctional officer are often more demanding due to these higher possibilities of violence from assaults by inmates (Cruz, 2020). McNeeley (2021) shared how correctional officers have greater health risks due to their exposure to inmate-on-staff assaults. This clearly shows



how dangerous a correctional officer's job is, and how people in this position could possibly experience higher rates of stress-related symptoms.

### **Complaints by an Inmate**

Complaints can come from many different people, in different places, and for many different reasons. These complaints can be from someone a person knows, or it could be from a total stranger (Aloia & Worley, 2018). Finding out about the complaint may cause someone to feel victimized, but it could also be seen as constructive criticism (Aloia & Worley, 2018; Thomson, 2018). Receiving this complaint may cause a person to experience stress-related symptoms (Cheshire et al., 2017). Some examples are shared in this paper to help understand whether correctional officers feel stress when a complaint by an inmate is filed against them.

In this study, correctional officers were asked if they had ever had a complaint filed against them by an inmate. If a correctional officer has had a complaint filed against them by an inmate, they may or may not choose to take it as a threat of future violence to them personally (McNeeley, 2021). However, this purpose of this study was to find out whether a complaint by an inmate causes the correctional officer to have stress-related symptoms.

There can be different reactions by individuals who receive complaints against them. For example, physicians who receive complaints by patients may feel more stress to do better if the complaint is seen as a justifiable reason (Cheshire et al., 2017). However, if a complaint is filed for something frivolous, the physician will then feel like they have to cover themselves with every minor detail by doing more paperwork

(Cheshire et al., 2017). Physicians may also receive complaints regarding issues that are beyond their control but are part of an organizational concern (Raberus et al., 2019).

These types of complaints can be seen as an assist from the patient to help the organization improve their health care practices (Raberus et al., 2019). Physicians are not alone in the receiving of complaints, nor are they alone in the ability to react in different ways to a complaint.

Other industries, such as the service industry, can receive complaints on a very regular basis. The service industry could include hotel employees, restaurant employees, retail employees, and more (Britannica, 2018). Those employees who work directly with customers are usually those who are the recipients of customer complaints (Shin et al., 2021). It has been found that these employees suffer the effects of stress-related symptoms quite frequently due to these customer complaints (Shun et al., 2021). Because of these stressors triggered by customer complaints, businesses in the service industry tend to have high turnover in their employees (Chung et al., 2021). However, it has been seen that stressors are reduced, along with employee turnover, when employees have supervisor support (Chung et al., 2021). In the case of service workers, complaints from customers are examples of complaints by those a person does not know.

On the other hand, there are complaints that a person may receive from someone they know quite well. These complaints can come from co-workers who wish to share a grievance (Silva & Malalage, 2021). In some places of business, interpersonal relationships are unhealthy and can cause discord among coworkers which is when complaints are most often seen (Halappa, 2019). This can cause stress among employees

which can be seen through crying at the desk, sleeplessness, and other health problems (Mohanty, 2019). This is a good example of a situation where a person knows the person filing the complaint against them.

### **Stress-Related Symptoms**

The outcome variable is how often a correctional officer experiences stress-related symptoms. The stress-related symptoms included headache, stomach or gastrointestinal problems, lost interest in sex or sexual pleasure, trouble getting asleep or staying asleep, cry easily or feel like crying, dizziness, heartburn, pain in the neck or low back, bad dreams, being easily startled, and having difficulty in concentrating. Some of these stress-related symptoms can include negative health outcomes such as fatigue, chronic pain, and mental health issues that can be precursors to other illnesses as well as factors of comorbidities (Adamsson & Bernhardsson, 2018). Studies have been done showing an association between work adversity, such as those experienced in a correctional facility, and these stress-related symptoms (Trounson & Pfeifer, 2017). Villotti et al. (2020) discovered that violence in the workplace can cause negative impacts on the quality of life. Furthermore, the study was able to show that stress-related symptoms will sustain for a longer period of time when the stress-related symptoms are more severe right after the violent event (Villotti et al., 2020). The growing concern with stress-related symptoms, and the severity these symptoms have when they are a result of violence in the workplace, has brought more studies and literature to the forefront. However, there is still more to be found regarding the relationship between being

assaulted, witnessing an assault, and having a complaint filed against you and stress-related symptoms.

Other occupations also show how their position can create stress-related symptoms. Rescue workers see death and serious injuries in their day-to-day work environment (Gartner et al., 2019). These individuals can experience both mental and physical health problems and often suppress their feelings creating even more work-related stress (Gartner et al., 2019). Often times rescue workers are employed to handle disaster relief exposing them to trauma on a regular basis that can lead to complex post-traumatic stress disorders (Brooks et al., 2018). Klimley et al. (2018) found in their research that comorbidities exist in rescue workers due to work-related stress. These stress-related symptoms are similar in nature to the stress-related symptoms answered by the correctional officers in this study.

Law enforcement is another occupation to review for stress-related symptoms. Those in law enforcement experienced chronic pain, cardiovascular problems, and gastrointestinal problems (Klimley et al., 2018). Being incapacitated on the job was ranked 31 out of 44 potential stressors among law enforcement which could be the source of these stress-related symptoms (Padilla, 2020). Like correctional officers, law enforcement officers are also reporting some of the same stress-related symptoms caused for similar reasons.

Another occupation where stress-related symptoms can be reviewed is that of firefighters. Firefighters experienced cardiovascular disease, musculoskeletal, neurological, and respiratory problems (Klimley et al., 2018). Dizziness and headaches

can be neurological symptoms, and pain in the neck or low back is a musculoskeletal symptom (Dubosh et al., 2019). These occupations are positions where stress-related symptoms are caused by the experiences from the job.

There are still other reasons individuals can experience stress-related symptoms. Victims of violence, such as domestic assault, can be affected by stress-related symptoms (Short et al., 2020). This includes intimate partner sexual assault and other abusive relationships (Garcia et al., 2019). Estrada et al. (2021) described how both immigrants and members of the lesbian, gay, queer, bi-sexual, and transexual community can experience assault due to prejudice and discrimination. The victim in these situations can experience depression, hypervigilance, and emotional distress (Estrada et al., 2021; Garcia et al., 2019). Although, the violence or assault may be for different reasons, stress-related symptoms can be similar in most violent situations.

Stress-related symptoms can come in various forms. Exhaustion caused by stress that affects sleep and concentration are two forms (Glise et al., 2020). Sometimes exhaustion can last for several years, and it may also return after someone has been treated (Glise et al., 2020). Stress-related symptoms can create comorbidities that can create a challenge when it comes to treating these symptoms (Greeson et al., 2018). Without knowing the root cause of the symptom(s), treatment can be ineffective (Greeson et al., 2018). These stress-related symptoms can take a toll on a person's body causing negative and often long-term effects.

### **Number of Years at Post**

The moderating variable in this study is the number of years a correctional officer has been at their post. This variable was selected to understand if the number of years on the job affects the relationship between stress-related symptoms that correctional officers experience due to assault by an inmate, witnessing an assault on another officer by an inmate, or complaints filed against them by an inmate. While there was little literature found regarding the tenure for correctional officers, and how it affects stress-related symptoms associated with being assaulted, witnessing an assault, or having complaints filed against them, there is some literature that points to how tenure does play a part in stress-related symptoms in correctional officers (Haynes et al., 2019). As a moderating variable, years at their post cannot only show a relationship between the predictor variables and the outcome variable, but the moderating variable could show how it changes the direction or size of the relationship.

There may be other reasons why tenure was associated with stress-related symptoms. In a study conducted by Haynes et al. (2019), it was found that correctional officers with longer tenure viewed inmate-on-staff assault as a bigger issue than those with a shorter tenure. This included both physical and verbal assault (Haynes et al., 2019). However, Gayle (2020) determined that additional research will need to be conducted to determine whether tenure indeed plays a role in the amount of stress a correctional officer endures. Conflicting information showed some evidence of tenure having no effect on stress for officers while other evidence showed tenure did have an effect on stress for officers (Gayle, 2020). This current study reviewed if tenure for this

specific population surveyed considered tenure as a probable cause for stress-related symptoms.

### **Marital Status of the Officer**

A correctional officer's marital status was selected as a control variable due to the possible influence that being married may have for correctional officers and stress-related symptoms. In some instances, the work-family life can be out of balance creating additional stress and cause poor mental well-being (Akoensi, 2018). Being married can offer emotional support that can assist in dealing with stressors from work (Sousa et al., 2019). In other instances, being married may not offer support needed for relieving stress and creating a positive work-life balance (Shanmughavadivu & Sethuramasubbiah, 2018). Due to these conflicting reports, using marital status as a control variable was necessary.

### **Age of the Officer**

The age of the correctional officer at the time of the original survey is a control variable. Per the limited literature available, age appears to have a linear relationship with tenure (McNeeley, 2021; Useche et al., 2019). Due to this factor, age could skew the results for stress-related symptoms when using the moderating variable of time at a correctional officer's post.

The age of an employee could make a difference when it comes to stress-related symptoms. A study by Rozman et al. (2019) showed that older employees (ages 50 to 65 years of age) experience lower occupational stress than younger employees. It was found that aging creates biological and physiological changes to a person and how they function

on organizational and societal levels (Rozman et al., 2019). A similar example of this was found among teachers who showed more stress among younger educators than older educators (Makara-Studzinska et al., 2020). It was said that younger teachers have to adapt to their new work situations compared to older teachers who have more experience in dealing with situations that come their way (Makara-Studzinska et al., 2020). Due to possible implications that could come from the difference in age of the correctional officers, it was considered a control variable.

### **Sex of the Officer**

A person's sex may be seen as an influencing factor when it comes to how stress is handled by an individual. A study performed by Gayle (2020) showed how male correctional officers were at a higher risk for job-related stress than female correctional officers. This is contradictory to other research that showed that females were at a higher risk for job-related stress due to feeling less safe due to their smaller size and strength (Steiner & Wooldredge, 2017). Gayle proposed that the difference between male and female correction officers, and how they handled stress, came from the problem-solving and emotion-focused coping methods that female correctional officers used versus the depersonalization coping methods of the male correctional officers. This would be why sex was controlled.

However, females have other factors that can increase their stress levels. These factors come from outside of work. As a caregiver, females who work outside the home may have additional stress due to the work-life balance (Pradana et al., 2019). By controlling for sex, it eliminates any possible influence or threats to validity.



**Veteran Status of the Officer**

Another control variable used was the correctional officer's veteran status. As a veteran, there is a high probability that the correctional officer may already suffer from post-traumatic stress disorder. Even though a study by Hart (2019) indicated that 34% of correctional officers suffer from PTSD while 14% of veterans have PTSD. However, it has been increasingly common for individuals who previously served in the armed forces to move into civilian life with a career in corrections (Turner & Moran, 2021). This is largely due to similarities in regimen, discipline, rank, and structure between the two types of occupations (Moran & Turner, 2021; Waddell et al., 2021). A study by Turner and Moran (2021) discovered that ex-military personnel who did not leave their commission prior to the end of their term, experienced less workplace stress and showed long-term commitment to their job as a correctional officer compared to personnel who left their commission early. All of these factors could influence how a correctional officer with a veteran status may experience stress-related symptoms.

**Race or Ethnicity of the Officer**

Race or ethnicity is commonly used as a control variable for social research. Due to interracial differences, antagonism and racial divide can occur and create cause for inmate-on-staff assault (McNeeley, 2021). This then ends up affecting a correctional officer's stress related to their job (Steiner & Wooldredge, 2017). It has also been found that individuals who suffer from discrimination, especially traumatic discrimination, may have a harder time dealing with stressful situations (Villarreal, 2017). Interracial differences are just one reason to control for race or ethnicity.

Discrimination can be another factor that influences stress among minorities. Other racial disparities exist for non-White employees such as access to health care, safe housing, and food that can cause added stress for this population (McKnight-Eily et al., 2021). This would make it difficult to determine if non-White correctional officers felt stress due to other outside influences or due to being assaulted by an inmate, witnessing an assault by an inmate on another correctional officer, or having a complaint filed against them by an inmate. By controlling for correctional officer's race or ethnicity, it decreases the possibility of becoming a factor in determining the relationship between my predictor variables and outcome variable.

### **Officers Who Have Children**

The last control variable in this study was whether or not the correctional officer has children regardless of if they are living in the same home. Employees who have children tend to experience more stress especially with the work-life balance conflict (Pradana et al., 2019). Due to economic needs and cultural shifts, most households rely on both spouses having to work which increases the amount of stress for both partners (Nora & Fitri, 2020; Sullivan, 2020). Female employees fair worse when it comes to work-life balance and stress as they perform multiple roles in their life as mother, wife, caregiver, and employee (Nora & Fitri, 2020; Pradana et al., 2019). Although, a study regarding fathers who are firefighters showed that stress levels are higher than those who are not fathers (Makara-Studzinska et al., 2020). This same study also showed a correlation with firefighters who are married with children and the number of years they have served as a firefighter (Makara-Studzinska et al., 2020). Those with less years on

the job are more likely to not be married with children (91%) versus those with more years on the job who are more likely to be married with children (94%; Makara-Studzinska et al., 2020). Due to these factors, having children is an additional variable to be controlled.

### **Definitions**

The following definitions will help readers understand key terms and concepts used in this study. By doing this, it decreases misinterpretation.

*Adverse Work Environment:* Work environment that causes emotional exhaustion, fatigue, job insecurity, low reward, depersonalization, conflict between coworkers and other individuals at work, and threats (Aronsson et al., 2017). Physical conditions of the work environment can be considered adverse such as noise levels, smells, cleanliness, poor lighting, and rundown facilities (Evers et al., 2019).

*Job Demands:* The physical, mental, and organizational aspects of a job that requires physical and psychological effort that may or may not be while under pressure or in the presence of conflict (Toolib & Ruzainy Alwi, 2020).

*Job Control:* The amount of autonomy or degree of control an individual may or may not have over their job when making decisions and performing tasks (Huadio, 2019).

*Secondary Traumatic Stress:* Occurs when someone witnesses someone else as a victim of violence, or when a person is taking care of a victim of violence (Benuto et al., 2019).

*Stress-Related Symptoms:* Stress can cause physical, mental, and behavior health symptoms including, but not limited to, aches and pains, stomach and digestive problems, high blood pressure, anxiety, depression, dizziness, and chest pain (The Cleveland Clinic, 2021). The stress-related symptoms in this study are headaches, stomach trouble or gastrointestinal problems, lost interest in sex or sexual pleasure, trouble getting to sleep or staying asleep, cry easily or feel like crying, dizziness, heartburn, pain in the neck or lower back, bad dreams, easily startled, and difficulty concentrating.

*Tenure:* The number in years of experience that a person has working for a company (Atayah et al., 2021). For this study, the number of years at their post was used to determine a correctional officer's tenure.

### **Assumptions**

A secondary data source was used for this study. For this reason, it is assumed that the collection of the original data was done without bias and recorded accurately. It is also assumed that the respondents understood and answered the questions honestly for this study. These assumptions are important for the validity of the study.

### **Scope and Delimitations**

The focus of this study was how violence affects correctional officers' health. More specifically, whether violence causes stress-related symptoms for correctional officers. This coincides with the demands of the job and the amount of control officers feel they have over their job. Job satisfaction can be seen more often when demands are lower, and control is higher (Ellison & Caudill, 2020). The study also focused on how this imbalance can cause stress-related symptoms.

One major boundary for this study is that the survey questioned state prisons only within the states of Massachusetts and Texas which could serve as a potential generalizability that all correctional officers have the same stress-related symptoms. Other demographic variables were collected with the original data, but they were not used for this current study. However, if used, any of these additional demographic variables could offer different insights to the relationship between the predictor variables and outcome variable. This could be valuable information for further research.

### **Limitations**

The data does not give information regarding the premise for the assaults either experienced by or witnessed by an officer to determine the reason for provocation which could determine control of the situation. The data were collected from a limited amount of state prisons from Massachusetts and Texas only which could be operated differently and could also affect the responses of the participants. The number of years a correctional officer has spent at their post for this survey may not take into account any other time spent as an officer at another facility. Other personal factors in a correctional officer's life would not be taken into consideration such as stress from another job, stress from any domestic disturbances, or stress regarding finances. The control variables limited some of these types of stress but not all. The data are also secondary in nature and participant self-reported which could affect reliability and validity of the data.

### **Significance**

The significance of this study is the possibility to uncover a need for prevention strategies that could be implemented to reduce the health risks of correctional officers.

These prevention strategies can lead to positive social change by identifying and creating opportunities that address areas of need to assist correctional officers with therapy and counseling when they have been exposed to violent situations at the workplace. All of these strategies could potentially reduce how often an officer experiences stress-related symptoms, but furthermore, how to cope with or avoid the situations that create the stress-related symptoms. Overall, it will be important for positive social change to decrease morbidity rates from health issues caused by stress.

### **Summary and Conclusions**

Stress can show itself in different forms and come from different sources. This study explored whether correctional officers experience stress-related symptoms in the workplace that specifically comes from being assaulted, witnessing an assault, or having a complaint filed against them. Stress can cause many different stress-related symptoms increasing morbidity rates (Perez-Floriano & Gonzalez, 2019). The literature shows how employees in different work environments can experience assault, witness assaults, or have a complaint filed against them. It also displays how a person could experience assault, witness an assault, or have a complaint filed against them even out of the workplace from both people they know and do not know. Among all of this, the literature conveys people who experience these events, can suffer from stress-related symptoms.

The demand-control model was used to review how assault, witnessing an assault, or having a complaint filed may be related to stress-related symptoms. Decreasing the feeling of demands and increasing the feeling of control can make employees feel less stress (Ellison & Caudill, 2020). When faced with violence, the job of a correctional

officer can be very demanding and make an officer feel as if they are unable to have decision controls (Akbari et al., 2017). However, it is unknown whether this exposure to violence causes officers to feel stress-related symptoms. More experience on the job may or may not be a factor related to an officer's level of stress and how often they experience stress-related symptoms.

The results of this study were used to find out whether being assaulted by an inmate, witnessing another officer being assaulted by an inmate, or having a complaint filed against an officer by an inmate causes the officer to have stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. It also took into consideration the amount of time an officer has been at their post. This study could help understand how correctional officers may or may not have an unhealthy response to violence in the workplace and determine whether more research should be conducted for preventing violence in the workplace. In Section 2, the research design, methodology, operationalization, the data analysis plan, threats to validity of the study, and any ethical considerations will be discussed.

## Section 2: Research Design and Data Collection

### **Introduction**

The purpose of this study was to determine whether there is a relationship between a correctional officer who has been assaulted by an inmate, witnessed another officer being assaulted by an inmate, or had a complaint filed against them by an inmate and how often a correctional officer experiences stress-related symptoms when controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. In this study, I also explored whether the number of years a correctional officer has been at their post had an effect on this relationship. In this section, I describe the research design, the methodology used to collect the data, and the plan to analyze the data. It also includes a discussion of any threats to the validity and reliability of the data as well as the ethical steps taken to secure the data and keep them confidential.

### **Research Design and Rationale**

This study has three predictor variables and a moderating variable. The three predictor variables were if a correctional officer has been assaulted by an inmate, witnessed another officer being assaulted by an inmate, and had a complaint filed against them by an inmate. The moderating variable was how long an officer has been at their post. There were control variables of marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. There was one outcome variable: how often an officer experiences stress-related symptoms.

This study was a secondary analysis of data collected by the U.S. Department of Justice and deposited in the National Archive of Criminal Justice Data. I used the data to



determine the effects of stress among correctional officers and how officer stress affects the prison organization. The participants were correctional officers within Massachusetts and Texas state prisons. In the study, I employed a correlation research design to determine a relationship between officers who have been assaulted, witnessed an assault by an inmate, or had a complaint filed by an inmate and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. A moderating variable of years at their post was used to determine if the number of years at their post increases or decreases any relationship with the outcome variable.

### **Methodology**

I obtained approval from the Walden University Institutional Review Board before reviewing or collecting any data for this study. The IRB approval number is 06-22-22-1001482. The population of this study were correctional officers within Massachusetts and Texas state prisons. There was a total of 1,083 correctional officers that took part in the two-phase, cross-sectional U.S. Department of Justice study. However, after reviewing the data, I found that only the first phase was viable for the current study, bringing the total respondents analyzed down to 515.

### **Sampling Procedures Used by Original Creators of the Data Set**

The participants for the original study were chosen in two different ways. The Massachusetts group of officers were selected from eight state prisons through simple random sampling. The Texas officers were selected from ten different state prisons through a stratified proportionate random probability sampling.

The data for this study were available to the public without the need for formal permission. The data are considered reputable and of good quality due to its affiliation with the U.S. criminal justice system and the Federal Bureau of Investigation. The selection of this data for the current study represents the correct population and represents information needed to identify and address possible public health problems for positive social change.

To ensure an accurate, statistically significant outcome, I performed an a-priori power analysis using the G\*Power application to determine the optimal sample size. A linear multiple regression fixed model with an alpha of 0.05, an effect size of 0.15, and a power of 80 were used as criteria. The standard scientific criterion for an alpha value is 0.05 for a Type I error (Frankfort-Nachmias & Leon-Guerrero, 2015). An effect size of 0.15 is suggested by the G\*Power application for a medium size effect. A power of 80% or higher is the customary value for research (Lakens, 2022). The power value can also have an influence on the effect size of the study (Lakens, 2022). The results showed a minimum sample size of 77 would be ideal; however, the actual sample was substantially greater.

### **Operationalization**

I categorized the three predictor variables by response as ordinal variables. The three predictor variables were if a correctional officer has been assaulted by an inmate, witnessed another officer being assaulted by an inmate, and had a complaint filed against them by an inmate. Responses for the predictor variables were *yes* or *no*. The moderating variable of how long an officer has been at their post could be answered by the

participant in the form of total years. This variable was an interval-ratio variable. The control variables of marital status, veteran status, and if the officer has children are dichotomous variables with a response of *yes* or *no*. Sex was a dichotomous control variable with a response of *male* or *female*. I measured age as an interval-ratio variable with ages between 19 and 68 years old. The last control variable was race or ethnicity, which was a nominal variable with responses of *White*, *Black/African American*, *Hispanic*, *Asian/Other Pacific Islander*, or *American Indian/Alaskan Native*. The original researchers combined the race and ethnicity as the name of this variable. For this reason, the variable is referred to as race or ethnicity.

The one outcome variable was how often an officer experiences stress-related symptoms (within the last 30 days). The responses were collected using a Likert-type scale based off of the Somatic Symptom Scale 8, Perceived Stress Scale, and the Stress Symptoms Scale to measure the responses. Each of the 11 stress-related symptom questions were individually answered with responses of *never* (0), *almost never* (score between 1 and 11), *sometimes* (score between 12 and 22), *fairly often* (score between 23 and 33), or *very often* (score above 34). This variable was ordinal.

All of the variables and their measurements are presented in Table 1.

**Table 1***Operationalization of Variables*

Variable Name	Category	Variable Meaning	Measurement/Variable Type
Assaulted by an Inmate	0 = No 1 = Yes	If a correctional officer has been physically assaulted by an inmate since working in the department.	Predictor/dichotomous
Witnessing an Assault by an Inmate	0 = No 1 = Yes	If a correctional officer has witnessed an assault of a correctional officer or staff by an inmate within the past year.	Predictor/dichotomous
Complaints by Inmates	0 = No 1 = Yes	If an inmate filed a complaint against a correctional officer for any reason within the past year.	Predictor/dichotomous
Years at Post	0 years to 37 years	The number of years a correctional officer has been at their current post.	Moderator/interval-ratio
Stress-related symptoms	0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly often 4 = Very often	<p>The stress-related symptoms that have been experienced in the last 30 days.</p> <ul style="list-style-type: none"> <li>• Headaches</li> <li>• Stomach trouble or gastrointestinal problems</li> <li>• Lost interest in sex or sexual pleasure</li> <li>• Trouble getting to sleep or staying asleep</li> <li>• Cry easily or feel like crying</li> <li>• Dizziness</li> <li>• Heartburn</li> <li>• Pain in the neck or lower back</li> <li>• Bad dreams</li> <li>• Easily startled</li> <li>• Difficulty concentrating</li> </ul>	Outcome/ordinal
Marital status	1 = Yes 2 = No	If officer is currently married.	Control/dichotomous

Variable Name	Category	Variable Meaning	Measurement/Variable Type
Age	Ages 19 years to 68 years	Age of officer at time of survey.	Control/interval-ratio
Sex	1 = Female 2 = Male	Sex of officer.	Control/dichotomous
Veteran status	1 = Y 2 = N	If the officer has been in the military.	Control/dichotomous
Race or ethnicity	1 = White 2 = Black/African American 3 = Hispanic 4 = Asian/Other Pacific Islander 5 = American Indian/Alaskan Native	The officer's Race or Ethnicity.	Control/nominal
Having children	1 = Y 2 = N	If the officer has children – regardless if they live in the same home.	Control/dichotomous

### Data Analysis Plan

I used Statistical Package for the Social Sciences (SPSS) Version 28 to analyze the data from the U.S. Department of Justice. Once the data were uploaded into SPSS, it was reviewed for completeness and accuracy. Any missing or invalid data were addressed by using the SPSS function for listwise deletion. This made sure that it dropped the missing case rather than deleting it completely from the data.

The research questions and corresponding hypotheses were:

RQ1: Is there a relationship between a correctional officer having been assaulted by an inmate, witnessing another correctional officer being assaulted by an inmate, or having a complaint filed by an inmate and how often the correctional officer experiences stress-

related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children?

*H<sub>0</sub>1*: There is no significant relationship between a correctional officer having been assaulted by an inmate, witnessing another correctional officer being assaulted by an inmate, or having a complaint filed by an inmate and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children.

*H<sub>a</sub>1*: There is a significant relationship between a correctional officer having been assaulted by an inmate, witnessing another correctional officer being assaulted by an inmate, or having a complaint filed by an inmate and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children.

RQ2: Is the relationship between a correctional officer having been assaulted by an inmate, witnessing another correctional officer being assaulted by an inmate, or a having a complaint filed by an inmate and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity and if the officer has children moderated by the number of years the correctional officer has been at their post?

*H<sub>0</sub>2*: There is no significant relationship between a correctional officer having been assaulted by an inmate, witnessing another correctional officer being

assaulted by an inmate, or having a complaint filed by an inmate and how often a correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children when moderating for the number of years the correctional officer has been at their post.

*H<sub>a2</sub>*: There is a significant relationship between a correctional officer having been assaulted by an inmate, witnessing another correctional officer being assaulted by an inmate, or having a complaint filed by an inmate and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children when moderating for the number of years the correctional officer has been at their post.

I used a 95% confidence interval and a significance level of  $< 0.05$  for all analysis. First, a crosstab chi-square test was performed to obtain the Pearson chi-square to establish if there were significant associations between the variables. The strength of this association was determined by the value of Cramer's V. A strong association is indicated by a value of 1, whereas a value of 0 would indicate no association.

I performed a hierarchical regression analysis for the hypothesis testing by showing if any of the predictors were related to the outcome of stress-related symptoms, and if so, which predictors showed the greatest significance. This regression model can also show the moderating effect of the number of years at their post on the relationship between the predictor variables and the outcome variable. The control variables were

factored into the model to account for any significant relationships with the predictor and outcome variable.

The first piece of information taken from the regression model was the model summary. To make sure that the model fit the data, I determined the size of the  $R^2$ . The percentage of the  $R^2$  can be between 0% and 100% with a higher number determining a better fit. Next, the coefficient determined the strength of the relationship between the predictor and outcome variables with each incremental increase of the predictor variable having either an increasing or decreasing effect on the outcome variable. Finally, I measured the effect of the moderating variable by evaluating the  $R^2$  change value in the change statistics of the model summary. This value shows the change in variation by adding the interaction of the moderator. The Sig F change was evaluated in the model summary as well to confirm any change in significance.

### **Threats to Validity**

The data for this study were secondary in nature. For this reason, I assumed that the collection of the original data was done without bias and was recorded accurately. Another assumption was that the respondents understood the questions and answered the questions honestly for this study. If either of these things were not true, it could provide a threat to internal validity. Any threats to external validity would be minimal. The data being used could be replicated and used in other studies to determine relationships between the amount of stress correctional officers have and possible causes of that stress.

There were possible threats to the construct validity due to the uncertainty of how the respondents answered the questionnaire; therefore, the statistical validity could be



threatened by this same factor. However, if the information received in the data is taken at face-value and applied as such, the threat is diminished.

I accounted for internal validity by controlling for specific variables. Using marital status, age, sex, veteran status, race or ethnicity, and having children as control variables reduced any influence or inference of the data.

### **Ethical Procedures**

The original researchers that collected the data used in the current study requested permission from each participant to obtain administrative and human resource information about the participant. The original researchers also performed a confidentiality review. Information was altered to reduce the risk of disclosure of the participants. Additionally, the data obtained by the National Archive of Criminal Justice Data requires that direct identifiers be de-identified prior to uploading the data to their site. The data was downloaded onto my laptop, which was secured by fingerprint sign-on where only I am allowed access. The data will be stored for 5 years before being destroyed.

### **Summary**

In this section, I discussed the research design, methodology, data analysis, threats to validity, and ethical precautions of the study. This study was a secondary data analysis with a population consisting of 515 correctional officers within Massachusetts and Texas state prisons. The operationalization of each of the variables, the plan for data analysis, and the statistical tests used to answer the research questions were explained. I also described the threats to validity and the ethical procedures followed to ensure

confidentiality. In Section 3, I present and discuss the results and findings from the data analysis.

### Section 3: Presentation of Results and Findings

#### **Introduction**

The purpose of this study was to determine if there is a relationship between correctional officers who have been assaulted by an inmate, witnessed another officer being assaulted by an inmate, or had a complaint filed against them by an inmate and stress-related symptoms. I designed the first research question to determine this relationship while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. The second question added moderating variables to determine if the number of years at the officer's post changed this relationship.

In Section 3, I provide the descriptive demographics and characteristics of the data set including any discrepancies found. An evaluation of the statistical assumptions and a statistical analysis of the findings to the research questions and hypotheses are then presented. Tables are included to illustrate these results.

#### **Accessing the Data Set for Secondary Analysis**

The data used for this study were collected in 2017 from correctional officers employed at Massachusetts and Texas state prisons. The Massachusetts response rate was 77.3%, and the Texas response rate was 97.7%. I obtained the data set from the National Archive of Criminal Justice Data. These data were representative of the population targeted for the study and the variables necessary to test the research questions.

I found two major discrepancies in the data. The first discrepancy was the ability to use the second phase of data collected by the original researchers. In the second phase, the original researchers did not ask the respondents about being assaulted by an inmate or

witnessing an assault by an inmate. Per the G\*Power application analysis, the remaining sample size was still large enough to only include the first phase of data with 515 participants versus the original 1,083. The other major discrepancy was the amount of missing data for three out of the six control variables. Marital status, having children, and veteran status had approximately half of the responses missing. To resolve this issue, I used the maximum likelihood method to replace the missing values with predictive values by using the merge file function in SPSS. Prior to choosing this method, I made sure the data were missing completely at random by reviewing a missing value analysis and the Little's MCAR test where rejection of the null hypothesis would show the data are not MCAR (see Little & Rubin, 2019). This was done separately for all three variables to ensure that I had complete data and would not need to remove these cases completely from the data set.

## **Results**

### **Descriptive Statistics**

After cleaning the data, I found the following descriptive statistics (as shown in Table 2). The correctional officers' age had responses ranging from 19 years old to 72 years old. There were 283 responses as yes for marital status (or 55%). There were 147, or 28.5% of, respondents who were female, while 71.5% were male. A yes response for veteran status made up only 6.2% of the total participants. Over half of officers (64.3%) were White while Black/African American respondents made up 27.4% of officers followed by Hispanic at 6.8%, Asian/Other Pacific Islander at 1.2%, and American

Indian/Alaskan Native with only one response accounting for 0.4%. The response of yes for having children was given by 398 participants (or 77.3%).

Descriptive statistics regarding the predictor variables are also included in Table 2. Responses to having been assaulted by an inmate showed that 39.6% answered yes, while 41.4% who responded yes to witnessing an assault on another correctional officer by an inmate and 44.3% responded yes to having complaints filed by an inmate.

Table 2 also includes the outcome variable's descriptive statistics. This shows the Likert-type responses with the largest response rate being sometimes at 42.7% followed by almost never at 37.3%, fairly often at 15%, and small percentages for very often and never at 3.1% and 1.9%, respectively.

**Table 2***Frequency and Percentages for all Variables*

Variable	<i>N</i>	%
<b>Marital status</b>		
No	232	45.0%
Yes	283	55.0%
<b>Sex</b>		
Male	368	71.5%
Female	147	28.5%
<b>Veteran status</b>		
No	483	93.8%
Yes	32	6.2%
<b>Race/ethnicity</b>		
White	331	64.3%
Black/African American	141	27.4%
Hispanic	35	6.8%
Asian/Other Pacific Islander	6	1.2%
American Indian/Alaskan Native	2	0.4%
<b>Have children</b>		
No	232	45%
Yes		55%
<b>Ever been assaulted</b>		
No	311	60.4%
Yes	204	39.6%
<b>Witness assault</b>		
No	302	58.6%
Yes	213	41.4%
<b>Complaints</b>		
No	287	55.7%
Yes	228	44.3%
<b>Stress-related symptoms</b>		
Never	10	1.9%
Almost never	192	37.3%
Sometimes	220	42.7%
Fairly often	77	15.0%
Very often	16	3.1%

## Statistical Analysis

The first statistical analysis performed was a crosstab, chi-square test to confirm that there were no associations between the variables. I was able to confirm this by finding that the Cramer's V was closer to 0 than it was to 1 for all variables. The smallest value was 0.064, showing a very weak association for witnessing an assault, while age was still weak but stronger with a value of 0.304.

To address RQ1, I conducted a hierarchical, multiple regression analysis. In a hierarchical regression, the predictor variables are put into blocks with each block representing a model (To & Mandracchia, 2019). Each model shows how the addition of variables change the effect of the variable on the outcome variable, including the ability to control for certain variables, and each block is considered its own model (To & Mandracchia, 2019). The control variables were put into Block 1 of 2, while the predictor variables of having been assaulted, witnessing an assault, and having a complaint filed by an inmate were put in Block 2 of 2. Overall, the model summary showed that the control variables did have statistical significance with a  $p$  value of  $< 0.001$ . The  $R^2$  value of 0.089 suggests that the control variables account for 8.9% of the variation in stress-related symptoms, which means that 91.1% of the variation of stress-related symptoms cannot be explained by the control variables alone. By adding the three predictor variables to the model, there was a statistically significant result with a  $p$  value of 0.033. The  $R^2$  change indicated that the predictor variables account for 1.6% of the variation in the outcome variable, which means that 98.4% of the variation in stress-related symptoms cannot be

explained by the predictor variables alone. The ANOVA table outcome also showed statistical significance with  $p < 0.001$ .

Next, I completed a review of the results for each of the predictor variables. Results for the predictor variable of having been assaulted did not show statistical significance with a  $p$  value of 0.610. This predictor variable showed the regression coefficient of  $[\beta = 0.023, 95\% \text{ CI } (-0.111, 0.189) p < .05]$ , which suggests that with each additional unit of having been assaulted, the outcome variable of stress-related symptoms increases by 0.023 units. Results for the predictor variable of witnessing an assault also did not show statistical significance with a  $p$  value of 0.716. This predictor variable showed the regression coefficient of  $[\beta = 0.016, 95\% \text{ CI } (-0.119, 0.174) p < .05]$ , which suggests that with each additional unit of having been assaulted, the outcome variable of stress-related symptoms increases by 0.016 units. The results for the predictor variable of having a complaint filed by an inmate were statistically significant with a  $p$  value of 0.008. This predictor variable showed the regression coefficient of  $[\beta = 0.119, 95\% \text{ CI } (0.053, 0.344) p < .05]$ , which suggests that with each additional unit of having been assaulted, the outcome variable of stress-related symptoms increases by 0.119 units.

Of the three different events, there was statistical significance only for having a complaint filed by an inmate. This means that for RQ1, the null hypothesis could only be rejected for the predictor variable of having a complaint filed by an inmate. For the other two predictor variables, having been assaulted and witnessing an assault, the null hypothesis failed to be rejected for RQ1.



Another statistic of note for all three analyses was the correlation between the variables. The Durbin-Watson value was 2.136, which indicates there is not autocorrelation between the outcome variable of stress-related symptoms and the predictor variables. However, the collinearity tolerance figure was approximately 0.93-0.94 for each of the predictor variables in all three scenarios. This indicates that it is possible that the predictor variables are correlated and may not be able to independently predict the outcome variable.

For RQ2, I performed a hierarchical regression analysis. Block 1 of 2 contained the control variables, and Block 2 of 2 had computed variables for the effect of the number of years at the officer's post on the predictor variable of having been assaulted by an inmate, the effect of the number of years at the officer's post on the predictor variable of witnessed an assault, the effect of the number of years at the officer's post on the predictor variable of having a complaint filed by an inmate, and the three original predictor variables. I created the moderating variables by using the compute variable option under the transform menu in SPSS. This was done to create a new variable to be used as a moderator that would determine if the number of years at an officer's post and being assaulted, witnessing an assault, or having a complaint filed by an inmate had an interaction with stress-related symptoms.

The results of the model summary showed that the addition of the moderating variables had no statistical significance with a  $p$  value of 0.117. The  $R^2$  change indicated that the moderating variables account for 1.8% of the variation in the outcome variable, which means that 98.2% of the variation in stress-related symptoms cannot be explained

by the moderating variables alone. The ANOVA table outcome showed statistical significance with  $p < 0.001$ .

Next, I completed a review of the results for each of the moderating variables. Results for the moderating variable of the effect of years at the officer's post on having been assaulted did not show statistical significance with a  $p$  value of 0.463. This predictor variable showed the regression coefficient of [ $\beta = 0.043$ , 95% CI (-0.016, 0.036)  $p < .05$ ], which suggests that with each additional unit of having been assaulted, the outcome variable of stress-related symptoms decreases by 0.043 units. The next results reviewed were for the moderating variable of the effect of at the officer's post on having witnessed an assault did not show statistical significance with a  $p$  value of 0.523. This predictor variable showed the regression coefficient of [ $\beta = 0.039$ , 95% CI (-0.021, 0.042)  $p < .05$ ], which suggests that with each additional unit of having been assaulted, the outcome variable of stress-related symptoms increases by 0.039 units. The final results were for the moderating variable of the effect of years at the officer's post on having a complaint filed by an inmate. This moderating variable did not show statistical significance with a  $p$  value of 0.552. This predictor variable showed the regression coefficient of [ $\beta = -0.034$ , 95% CI (-0.034, 0.018)  $p < .05$ ], which suggests that with each additional unit of having been assaulted, the outcome variable of stress-related symptoms decreases by 0.034 units.

For the results of RQ2, I failed to reject the null hypothesis related to all three events due to statistical significance being  $>$  less than 0.05 for each. The Durbin-Watson value had a value of 2.140, indicating there is not autocorrelation between the outcome variable of stress-related symptoms and the moderating variables. However, the

collinearity tolerance figure was approximately 0.93-0.97 for each of the predictor variables in all three scenarios, which indicates that it is possible that the moderating variables are correlated and may not be able to independently predict the outcome variable.

Tables 3 and 4 provide the results of the regression statistics.

**Table 3**

*Regression Statistics*

Statistic	Value
R <sup>2</sup>	0.089
R <sup>2</sup> change	0.016
R2 change (moderator)	0.018
Sig F	<.001
Sig F change	0.033
Sig change (moderator)	0.117

**Table 4***Variables in Hierarchical Regression Model*

	Coefficients	<i>p</i> value	Confidence Intervals	
			Lower 95%	Upper 95%
Age	-0.161	0.002	-0.019	-0.004
Sex	-0.269	<.001	-0.670	-0.314
Race/ethnicity	.007	.880	-.087	.102
Marital status	.108	.055	-.004	.361
Have children	.119	.024	.031	.439
Veteran status	.083	.061	-.013	.580
Assault	.023	.610	-.111	.174
Witnessed assault	.016	.716	-.119	.174
Complaint filed	.119	.008	.053	.344
Years*assault	.043	.463	-.016	.036
Years*witnessed Assault	.039	.523	-.021	.042
Years*complaint filed	-.034	.552	-.034	.018

Other results to note are the statistical significance of the control variables. Age ( $p = 0.002$ ), sex ( $p < 0.001$ ), and having children ( $p = 0.024$ ) were all statistically significant. While marital status ( $p = 0.055$ ) was not quite statistically significant, it could be considered clinically significant. Race/ethnicity ( $p = 0.880$ ) and veteran status ( $p = 0.061$ ) were not statistically significant.

I also performed a post-hoc analysis to determine how much of a difference the missing data for the control variables of marital status, having children, and veteran status would have on the outcomes of the study. With all missing cases removed from the data, 249 cases remained. The  $R^2$  value was 0.117, and the  $R^2$  change value was 0.014 with a significance of  $p < 0.001$  (Model 1) and change in significance of  $p = 0.286$  (Model 2).

This is quite different from the original model, which showed statistical significance in both Models 1 and 2.

To continue with the post-hoc analysis, none of the three predictor variables showed statistical significance. By adding in the moderating variable, there was also no statistical significance. Tables 5 and 6 show the statistical analysis output of the post-hoc and ad-hoc analyses in more detail.

**Table 5**

*Post-Hoc Regression Statistics*

Statistics	Value
R <sup>2</sup>	0.117
R <sup>2</sup> change	0.014
R <sup>2</sup> change (moderator)	0.016
Sig F	<.001
Sig F change	0.286
Sig change (moderator)	0.615

**Table 6***Ad-Hoc Variables in Hierarchical Regression*

	Coefficients	<i>p</i> value	Confidence Intervals	
			Lower 95%	Upper 95%
Age	-.193	.008	-.023	-.003
Sex	-.286	<.001	-.748	-.279
Race/ethnicity	-.120	.060	-.297	.006
Marital status	.038	.599	-.185	.320
Have children	.070	.339	-.142	.412
Veteran status	.080	.218	-.129	.563
Assault	.000	.996	-.234	.233
Witnessed assault	.061	.340	-.123	.354
Complaint filed	.096	.131	-.051	.396
Years*assault	.058	.468	-.023	.051
Years*witnessed Assault	-.011	.889	-.060	.052
Years*complaint filed	-.045	.551	-.043	.023

**Summary**

The results of these analyses showed that in relation to RQ1, I was able to reject the null hypothesis only for the predictor variable of complaints filed by an inmate due to the finding of statistical significance. I failed to reject the null hypothesis for the other two predictor variables due to showing no statistical significance. In relation to RQ2, I failed to reject the null hypothesis for all three predictor variables because there were not significant results for all three.

The results of these findings will be interpreted and discussed further in Section 4. I will explain how the findings align with the theoretical framework of the job demand-control model. Comparisons will also be made with what has been found previously in the peer-reviewed literature, and the limitations and recommendations for further

research will be described. Finally, I will consider the findings for their potential impact on professional practice and positive social change.

## Section 4: Application to Professional Practice and Implications for Social Change

### **Introduction**

This study was a secondary analysis of data collected by the U.S. Department of Justice and deposited in the National Archive of Criminal Justice Data. To determine if there are potential negative health effects for correctional officers, I examined if there is a relationship between a correctional officer who has been assaulted by an inmate, witnessed another officer being assaulted by an inmate, or had a complaint filed by an inmate against them and how often the correctional officer experiences stress-related symptoms while controlling for marital status, age, sex, veteran status, race or ethnicity, and if the officer has children. The interaction between the number of years a correctional officer has been at their post and these events was also analyzed to determine its effect on how often the officer experiences stress-related symptoms.

The findings from this study showed that the best predictor to determine negative effects on correctional officers' health was complaints filed by an inmate. Being assaulted and witnessing an assault did not bear a statistical significance on stress-related symptoms for correctional officers. The moderating interaction of years at the officer's post with the predictor variables did not have a significant effect on stress-related symptoms either.

### **Interpretation of the Findings**

The findings in this study neither confirm nor disconfirm what was previously found in the peer-reviewed literature. Being assaulted and witnessing an assault did not have a significant outcome on correctional officers' stress-related symptoms in the



current study. However, when a complaint is filed on a correctional officer by an inmate, there is a significant outcome on correctional officers' stress-related symptoms.

The theoretical framework used for this study was the job demand-control model. The framework, as it pertains to the results of this study, shows that the demands correctional officers could feel from being assaulted or witnessing an assault may not be outside of how the correctional officer feels about the control they have over the situation. Conversely, when a correctional officer receives a complaint filed by an inmate, their sense of control falters, which was proven by the results of this predictor variable being significant. As found in the literature, the job demand-control model can create a balance that will level out the demands that would normally create higher stress levels (Jessiman-Perreault et al., 2021). Creating a buffer could give a correctional officer a better feeling of control that would lower the feeling of demand felt from complaints received by inmates, therefore decreasing stress-related symptoms (Chesire et al., 2017; Jessiman-Perreault et al., 2021). Determining what this buffer is could be the topic for further research to formulate possible prevention strategies.

It does not appear that the number of years at the correctional officer's post has an impact on the relationship between the predictor variables of having been assaulted and witnessing an assault and stress-related symptoms. A moderating variable can have either an enhancing interaction, a buffering interaction, or an antagonistic interaction (Frazer et al., 2004). Therefore, the moderating variable has a buffering interaction with the predictor variable of having had a complaint filed by an inmate. A buffering interaction occurs when the predictor variable and the moderating variable weaken the effect on the

outcome variable (Frazer et al., 2004). This is shown by the change in significance of this variable when the number of years at the correctional officer's post is added. On its own, the predictor variable of having had a complaint filed by an inmate showed significance, but with the interaction of the moderating variable, there was no longer any significance. The literature showed conflicting information when looking at a correctional officer's tenure and their stress-related symptoms. Gayle (2020) recommended that additional research be conducted to make a determination about tenure having any bearing on stress-related symptoms. The findings in the current study validates Gayle's claim, and I agree that more research is necessary on this topic.

Statistical significance was seen for three of the control variables including age. This result coincides with the literature where it was found that employees over the age of 50 have lower stress than those younger than the age of 50 (Rozman et al., 2019). Age has been seen as an adaptive factor for employees to handle stressful situations due to experience (Makara-Studzinska et al., 2020). Factoring in the knowledge from the literature, controlling for age was an important element for this study due to its significance.

I also saw statistical significance with the control variable of sex. The literature was conflicting regarding the risk for stress-related symptoms between males and females (Gayle, 2020; Steiner & Wooldredge, 2017). The findings of the current study showed that this risk was higher for female correctional officers. Pradana et al. (2019) pointed out how females who work outside the home may experience more stress because their work-

life balance is uneven. Controlling for sex, I was able to deter any chance of doubt about which sex had more stress-related symptoms as not to create any sort of bias.

The third control variable that showed statistical significance was having children. The data from this study confirms previous findings in the literature revealing that correctional officers who have children experienced more stress-related symptoms (Pradana et al., 2019). Employees who have children and have jobs that have higher risk rates for injury or violence, like a correctional officer, have higher levels of stress (Makara-Studzinska et al., 2019). Due to the significant results found in the current study, my decision to control for this variable proved to be important and beneficial.

### **Limitations of the Study**

The originally stated limitations to this study are still relevant. The secondary data used did not provide information regarding the premise for the assaults either experienced or witnessed by an officer to determine the reason for provocation. The data were collected from a limited amount of state prisons in Massachusetts and Texas only. Each prison could be operated differently, which may affect the responses of the participants. The number of years a correctional officer has spent at their post for this survey may not have taken into account any other time spent as an officer at another facility. The data also could not take into consideration any other personal factors in a correctional officer's life, such as stress from another job, stress from any domestic disturbances, or stress regarding finances. I included the control variables to try to limit bias, but not all stress-related factors would have been included in these variables. The data were also secondary in nature and participant self-reported, which could affect their reliability and validity.

Along with the original limitations, I identified new limitations after the analysis was complete. The biggest limitation was identified when the data set was accessed, and I found that half of the data were missing for three of the control variables (i.e., marital status, having children, and veteran status). Multiple imputation was used to account for the missing data, but it also was cause for concern in the outcome of the results. I found that the results did vary slightly. None of the variables, including the moderating variable, showed statistical significance.

I also found that Phase 2 of the original data collection could not be used due to the exemption of two of the key variables for this study. In the second phase of the study, the original researchers did not ask the correctional officers about being assaulted or witnessing an assault. While this contributed to the limitations of this study, using only information from Phase 1 still allowed for the sample size to be acceptable.

### **Recommendations**

Due to the inconclusive results of this study, I recommend that further research should be done to determine how being assaulted, witnessing an assault, and having a complaint filed by an inmate affects correctional officers' stress-related symptoms. As noted in the Limitations subsection in both Sections 1 and 4, the data were collected from only a limited amount of state prisons in only two different states. As stated in the peer-reviewed literature, differences between security levels, time of day, and other various factors could lead to different study results. Any additional research could assist in detailing where the need will be for interventions. Based off of the results the current study, complaints filed by inmates appear to be a problem area for correctional officers.

Their need for control over the demands of their job, in the form of complaints, appears to be greater than other careers (Akbari et al., 2017). Further research to understand what kinds of complaints cause more stress-related symptoms could result in more detailed findings.

### **Implications for Professional Practice and Social Change**

One recommendation I have for professional practice would be the way disciplinary actions on correctional officers are managed. When an officer receives a complaint by an inmate and disciplinary action is warranted, the action should be evenly distributed and fair, which will allow the correctional officer to not feel as if they have been targeted and the officer will know what to expect in any given circumstance (see Boateng & Hsieh, 2019). If complaints by an inmate will come with disciplinary actions for the correctional officer, the officer should not feel the need to prove their innocence or worth and fear unfair disciplinary actions (Reynolds et al., 2018). Worry and stress about what the disciplinary action will be, including losing their job, should not add unnecessary stress (Reynolds et al., 2018). The stress-related symptoms felt by correctional officers due to receiving complaints by inmates is clearly shown in the results of this study. If complaints are handled fairly and transparently, it could reduce some of the stress correctional officers feel.

Another recommendation would be to treat complaints as a way of educating the officer. Positive social change could be achieved through developing interventions to help assist officers in mentally processing the information from the complaint (Marszalek, 2020). As a facility, a prison could create on-going training based on

complaints filed by inmates (O'Dowd et al., 2022). This would offer a chance for all officers to learn how to handle a situation and prevent future complaints (Rogers et al., 2022). This approach may help officers learn from this event and decrease stress-related symptoms.

Facilities can also offer individual counseling sessions for those officers who need assistance with coping strategies. Even though the facility training may offer solutions, individuals can react to situations differently (Clifton et al., 2018). Management could be trained to watch for signs and look for them at regular check-ins with officers (Griffin, 2018). This would offer time for the officer to discuss any issues they are experiencing, and it could increase morale by creating a relationship and environment where an officer can feel safe.

The training and counseling received at work could be beneficial for the correctional officer's personal life as well. Learning to take control of their position at work and avoid demands could decrease stress levels and stress-related symptoms (Ellison & Caudill, 2020). Having a family member who is dealing with stress or experiencing stress-related symptoms can take a toll on the relationship (Sullivan, 2020). If the stress-related symptoms are causing the officer to experience further health concerns or disease, the burden of caring for the family member and the monetary cost of treatment can be a burden on the family as well (Addo et al., 2018). Learning coping skills could be valuable for a correctional officer.

The cost of health care has long been a popular topic among many different groups. According to Greenberg et al. (2021), in 2020, the cost of adults with major

depressive disorder was \$326.2 billion in the United States. The workplace saw the highest burden with an increase of 73.2% in costs (Greenberg et al., 2021). Taking care of the needs of correctional officers' health by implementing changes at the workplace could assist in reducing this cost. Lowering demands and increasing control for officers could make a positive impact on officers' stress-related symptoms (Ricciardelli & Carleton, 2021). In turn, this could lead to officers experiencing better health outcomes and a decrease in their health care utilization, resulting in reduced health care costs.

### **Conclusions**

The results of this study indicated that correctional officers who receive complaints filed against them by inmates do experience stress-related symptoms. Based on these results, further research can be done to detail and pinpoint how or why this happens so that better interventions can be developed and implemented for prevention. Educating facilities and officers will be an important ingredient for these preventions to become successful. This is made evident by the results of this study. When correctional officers feel tired, achy, experience stomach issues, or experience issues with sleeping, they may not realize that it could be caused by stress from their job. They may also not understand how the stress-related symptoms they are experiencing could be negatively impacting their health.

The job demand-control model could be a beneficial tool for correctional facilities. This model can be used to keep a balance between the demand and control of a correctional officer's job (Ellison & Caudill, 2020). If this balance is achieved, the officers could see a change in balance in their own lives through a decrease in their stress

and an increase in their health (Jalilian et al., 2019). The results of the current study add to the existing literature by showing how correctional officers experience stress-related symptoms when an inmate files a complaint against them and how the job demand-control model can continue to assist in the development of prevention strategies for officers.



## References

- Adamsson, A., & Bernhardsson, S. (2018). Symptoms that may be stress-related and lead to exhaustion disorder: A retrospective medical chart review in Swedish primary care. *BMC Family Practice*, *19*, 172. <https://doi.org/10.1186/s12875-018-0858-7>
- Addo, R., Agyemang, S. A., Tozan, Y., & Nonvignon, J. (2018). Economic burden of caregiving for persons with severe mental illness in sub-Saharan Africa: A systematic review. *PLOS One*. <https://doi.org/10.1371/journal.pone.0199830>
- Agrawal, P., Neisler, J., Businelle, M. S., Kendzor, D. E., Hernandez, D. C., Odoh, C., & Reitzel, L. R. (2019). Exposure to violence and sleep inadequacies among men and women living in a shelter setting. *Health Behavior Research*, *2*(4), 19. <https://doi.org/10.4148/2572-1836.1051>
- Akbari, J., Akbari, R., Shakerian, M., & Mahaki, B. (2017). Job demand-control and job stress at work: A cross-sectional study among prison staff. *Journal of Education and Health Promotion*, *6*, 15. [https://doi.org/10.4103/jehp.jehp\\_68\\_14](https://doi.org/10.4103/jehp.jehp_68_14)
- Aloia, L. S., & Worley, T. (2018). The role of family verbal aggression and taking conflict personally in romantic relationship complaint avoidance. *Communication Studies*, *70*(2), 190-207. <https://doi.org/10.1080/10510974.2018.1524777>
- Aronsson, G., Theorell, T., Grape, T., Hammerstrom, A., Hogstedt, C., Marteinsdottir, I., Skoog, I., Traskman-Bendz, L., & Hall, C. (2017). A systematic review including meta-analysis of work environment and burnout symptoms. *BMC Public Health*, *17*(264). <https://doi.org/10.1186/s12889-017-4153-7>

- Atayah, O. F., Najaf, K., Subramaniam, R. K., & Nie Chin, P. (2021). The ascension of executives' tenure, corporate risk-taking and corporate performance: Evidence from Malaysia. *Asia-Pacific Journal of Business Administration*, *14*(1), 101-123. <https://doi.org/10.1108/APJBA-05-2021-0189>
- Baker, V. M. (2017). *Loose coupling and defining deviance down: Correctional officers' perceptions of organizational responses to mental health and well-being* [Doctoral dissertation, Wilfrid Laurier University]. Scholar Commons.
- Bartel, E., MacEachen, E., Reid-Musson, E., Meyer, S. B., Saunders, R., Bigelow, P., Kosny, A., & Varatharajan, S. (2019). Stressful by design: Exploring health risks of ride-share work. *Journal of Transport and Health*, *14*, 100571. <https://doi.org/10.1016/j.jth.2019.100571>
- Beckerman, N. L., & Wozniak, D. F. (2018). Domestic violence counselors and secondary traumatic stress (STS): A brief qualitative report and strategies for support. *Social Work in Mental Health*, *16*(4), 470-490. <https://doi.org/10.1080/15332985.2018.1425795>
- Behnke, A., Rojas, R., Karrasch, S., Hitzler, M., & Kolassa, I. T. (2019). Deconstructing traumatic mission experiences: Identifying critical incidents and their relevance for the mental and physical health among emergency medical service personnel. *Frontiers in Psychology*, *10*. <https://doi.org/10.3389/fpsyg.2019.02305>
- Benuto, L. T., Singer, J., Gonzalez, F., Newlands, R., & Hooft, S. (2019). Supporting those who provide support: Work-related resources and secondary traumatic

stress among victim advocates. *Safety and Health at Work*, 10(3), 336-340.

<https://doi.org/10.1016/j.shaw.2019.04.001>

Boating, F. D., & Hsieh, M. (2019). Misconduct within “four walls”: Does organizational justice matter in explaining prison officers’ misconduct and job stress?

*International Journal of Offender Therapy and Comparative Criminology*, 63(2),

289-308. <https://doi.org/10.1177/0306624X18780941>

Bogolyubova, O., Tikhonov, R., Ivanov, V., Panicheva, P., & Ledovaya, Y. (2017).

Violence exposure, posttraumatic stress, and subjective well-being in a sample of Russian adults: A Facebook-based study. *Journal of Interpersonal Violence*, 35(5-

6). <https://doi.org/10.1177/0886260517698279>

Bowring, A., Telschow, F. J. E., Schwartzman, A., & Nichols, T. E. (2021). Confidence sets for Cohen’s d effect size images. *NeuroImage*, 226(117477).

<https://doi.org/10.1016/j.neuroimage.2020.117477>

Brooks, S. K., Rubin, G. J., & Greenberg, N. (2018). Traumatic stress within disaster-exposed occupations: Overview of the literature and suggestions for the management of traumatic stress in the workplace. *British Medical Bulletin*.

<https://doi.org/10.1093/bmb/ldy040>

Brown, B., Myers, D., Casteel, C., & Rauscher, K. (2020). Exploring differences in the workplace violence experiences of young workers in middle and late adolescence in the United States. *Journal of Safety Research*, 74, 263-269.

<https://doi.org/10.1016/j.jsr.2020.06.008>

Bureau of Labor and Statistics. (2016). *Putting violence in perspective: How safe are America's educators in the workplace?*

<https://www.bls.gov/opub/mlr/2016/article/putting-violence-in-perspective.htm>

Bureau of Labor and Statistics. (2021). *Occupational employment and wages, May 2020 31-0000 healthcare support occupations (Major group)*.

<https://www.bls.gov/oes/current/oes310000.htm>

Butler, L. D., Carello, J., & Maguin, E. (2017). Trauma, stress, and self-care in clinical training: Predictors of burnout, decline in health status, secondary traumatic stress symptoms, and compassion satisfaction. *Psychological Trauma: Theory, Research, Practice, and Policy*, 9(4), 416-424. <https://doi.org/10.1037/tra0000187>

Chapa Villarreal, M. (2017). *Psychological resilience in correctional officers: The role of demographics* [Doctoral dissertation, Walden University]. ScholarWorks.

Chung, H., Quan, W., Koo, B., Ariza-Montes, A., Vega-Munoz, A., Giorgi, G., & Han, H. (2021). A threat of customer incivility and job stress to hotel employee retention: Do supervisor and co-worker supports reduce turnover rates?

*International Journal of Environmental Research and Public Health*, 18(22),

6616. <https://doi.org/10.3390/ijerph18126616>

Cividanes, G. C., Mello, A. F., & Mello, M. F. (2019). Revictimization as a high-risk factor for development of posttraumatic stress disorder: A systematic review of the literature. *Brazilian Journal of Psychiatry*, 41, 82-89.

<https://doi.org/10.1590/1516-4446-2017-0013>

The Cleveland Clinic. (2021). *Stress: Signs, symptoms, management & prevention*.

<https://clevelandclinic.org>

Clifton, S., Torres, J., & Hawdon, J. (2018). Whatever gets you through the night: Officer coping strategies after the high-profile line of duty deaths in Dallas and Baton Rouge. *American Journal of Criminal Justice*, 43(4), 1-15.

Del Pozo-Antunez, J. J., Ariza-Montes, A., Fernandez-Navarro, F., & Molina-Sanchez, H. (2018). Effect of job demand-control-social support model on accounting professionals' health perception. *International Journal of Environmental Research and Public Health*, 15, 2437. <https://doi.org/10.3390/ijerph15112437>

Dubosh, N. M., Edlow, J. A., Goto, T., Camargo, C. A., & Hasegawa, K. (2019). Missed serious neurologic conditions in emergency department patients discharged with nonspecific diagnoses of headache or back pain. *Annals of Emergency Medicine*, 74(4), 549-561. <https://doi.org/10.1016/j.annemergmed.2019.01.020>

Ellrich, K., & Baier, D. (2017). Post-traumatic stress symptoms in police officers following violent assaults: A study on general and police-specific risk and protective factors. *Journal of Interpersonal Violence*, 32(3), 331-356. <https://doi.org/10.1177/0886260515586358>

Ellison, J. M., & Caudill, J. W. (2020). Working on local time: Testing the job-demand-control-support model of stress with jail officers. *Journal of Criminal Justice*, 70, 101717. <https://doi.org/10.1016/j.jcrimjus.2020.101717>

Encyclopedia Britannica. (2018, May 28). Service industry. In *Encyclopedia Britannica*. <https://www.britannica.com/topic/service-industry>

- Estrada, F., Cerezo, A., & Ramirez A. (2021). An examination of posttraumatic stress disorder-related symptoms among a sample of Latinx sexual- and gender-minority immigrants. *Journal of Traumatic Stress, 34*(5), 967-976.  
<https://doi.org/10.1002/jts.22714>
- Evers, T. J., Ogloff, J. R. P., Trounson, J. S., & Pfeifer, J. E. (2019). Well-being interventions for correctional officers in a prison setting: A review and meta-analysis. *Criminal Justice and Behavior, 47*(1), 3-21.  
<https://doi.org/10.1177/0093854819869975>
- Fowler, M. (2019, June 24). Taxi driver stabbed in broad daylight. *Age* [Melbourne, Australia], 16.  
<https://link.gale.com/apps/doc/A590269140/OVIC?u=minn4020&sid=bookmark-OVIC&xid=44639c11>
- Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology, 51*(1), 115-134. <https://doi.org/10.1037/0022-0167.51.115>
- Garcia, E. R., Stoeber, J. K., Wang, P., & Yim, I. S. (2019). Empowerment, stress, and depressive symptoms among female survivors of intimate partner violence attending personal empowerment programs. *Journal of Interpersonal Violence, 36*(19-20). <https://doi.org/10.1177/0886260519869693>
- Gartner, A., Behnke, A., Conrad, D., Kolassa, I-T., & Rojas, R. (2019). Emotion regulation in rescue workers: Differential relationship with perceived work-

related stress and stress-related symptoms. *Frontiers in Psychology*.

<https://doi.org/10.3389/fpsyg.2018.02744>

Gayle, P. A. (2020). *Job self-efficacy, alexithymia and secondary traumatic stress among correctional officers* [Doctoral dissertation, Walden University]. ScholarWorks.

Glise, K., Wiegner, L., & Jonsdottir, I. H. (2020). Long-term follow-up of residual symptoms in patients treated for stress-related exhaustion. *BioMed Central Psychology*, 8(1). <https://doi.org/10.1186/s40359-0200395-8>

Goulette, N., Denney, A. S., Crow, M. S., & Ferdik, F. V. (2020). Anything can happen at any time: Perceived causes of correctional officer injuries. *Criminal Justice Review*. <https://doi.org/10.1177/0734016820952521>

Grant, S., Davidson, J., Manges, K., Dermenchyan, A., Wilson, E., & Dowdell, E. (2020). Creating healthful work environments to deliver on the quadruple aim: A call to action. *The Journal of Nursing Administration*, 50(6), 314-321. <https://doi.org/10.1097/NNA.0000000000000891>

Greenberg, P. E., Fournier, A., Sisitsky, T., Simes, M., Berman, R., Koenigsberg, S. H., & Kessler, R. C. (2021). The economic burden of adults with major depressive disorder in the United States (2010 and 2018). *Pharmacoeconomics*, 39, 653-665. <https://doi.org/10.1007/s40273-021-01019-4>

Greeson, J. M., Zarrin, H., Smoski, M. J., Brantley, J. G., Lynch, T. R., Webber, D. M., Hall, M. H., Suarez, E. C., & Wolever, R. Q. (2018). Mindfulness meditation targets transdiagnostic symptoms implicated in stress-related disorders: Understanding relationships between changes in mindfulness, sleep quality, and

- physical symptoms. *Evidence-Based Complementary and Alternative Medicine*, 2018, 4505191. <https://doi.org/10.1155/2018/4505191>
- Griffin, H. (2018). Leadership and its effects on employee wellness and morale. In *Leadership in Healthcare and Public Health*. The Ohio State University. [Leadership in Healthcare and Public Health – Open Textbook \(pressbooks.pub\)](https://pressbooks.pub/leadership-in-healthcare-and-public-health/)
- Griffin, M., & Hepburn, J. (2020). Effects of stress among correctional officers, United States, 2017-2018. Inter-university Consortium for Political and Social Research [distributor], 2020-08-27. <https://doi.org/10.3886/ICPSR37329.v1>
- Halappa, M. (2019). Workplace harassment: The acumen of a submissive fact in dentistry. *Journal of Dentistry and Oral Health*, 6(101), 1-5. [https://www.researchgate.net/profile/Mythri-Halappa/publication/335221376\\_Workplace\\_Harassment\\_The\\_Acumen\\_of\\_a\\_Submissive\\_Fact\\_in\\_Dentistry/links/5e6fdd1b458515eb5aba605c/Workplace-Harassment-The-Acumen-of-a-Submissive-Fact-in-Dentistry.pdf](https://www.researchgate.net/profile/Mythri-Halappa/publication/335221376_Workplace_Harassment_The_Acumen_of_a_Submissive_Fact_in_Dentistry/links/5e6fdd1b458515eb5aba605c/Workplace-Harassment-The-Acumen-of-a-Submissive-Fact-in-Dentistry.pdf)
- Hart, D. (2019). Health risks of practicing correctional medicine. *American Medical Association Journal of Ethics*, 21(6), E540-545. <https://doi.org/10.1001/amajethics.2019.540>
- Haynes, S. H., May, D. C., Lambert, E. G., & Keena, L. D. (2019). An examination of the effects of personal and workplace variables on correctional staff perceptions on safety. *American Journal of Criminal Justice*, 45(1), 145-165. <https://doi.org/10.1007/s12103-019-09497-1>
- Huadiao, Y. (2019). *The impact of job competence on job well-being: Taking job control*



*level and perceived organizational support as moderators, psychological ownership and job insecurity as mediators* [Doctoral dissertation, China-ASEAN International College Dhurakj Pundit University] Libdoc. The Impact of Job Competence on Job Well-Being: Taking Job Control Level and Perceived Organizational Support as Moderators, Psychological Ownership and Job Insecurity as Mediators (dpu.ac.th).

Isenhardt, A., & Hostettler, U. (2020). Inmate violence and correctional staff burnout: the role of sense of security, gender, and job characteristics. *Journal of Interpersonal Violence, 35*(1-2), 173-207.

<https://doi.org/10.1177/0886260516681156>

Jaegers, L. A., Matthieu, M. M., Vaughn, M. G., Werth, P., & Katz, I. M. (2020).

Posttraumatic stress disorder and job burnout among jail officers. *Journal of Occupational Environmental Medicine, 61*(6), 505-510.

<https://doi.org/10.1097/JOM.0000000000001600>

Jalilian, H., Kargar Shouroki, F., Azmoon, H., Rostamabadi, A., & Choobineh, A.

(2019). Relationship between job stress and fatigue based on job demand-control-support model in hospital nurses. *International Journal of Preventative Medicine, 10*(56). [https://doi.org/10.4103/ijpvm.IJPVM\\_178\\_17](https://doi.org/10.4103/ijpvm.IJPVM_178_17)

James, L., & Todak, N. (2018). Prison employment and post-traumatic stress disorder: Risk and protective factors. *American Journal of Industrial Medicine, 61*(9), 725-732. <https://doi.org/10.1002/ajim.22869>

- Jessiman-Perreault, G., Smith, P. M., & Gignac, M. A. M. (2021). Why are workplace social support programs not improving the mental health of Canadian officers? An examination of the theoretical concepts underpinning support. *International Journal of Environmental and Public Health*, 18, 2665.  
<https://doi.org/10.3390/ijerph18052665>
- Kain, J., & Jex, S. (2010). Karasek's (1979) Job demands-control model: a summary of current issues and recommendations for future research. In P. L. Perrewe & D. C. Ganster (Eds.). *New developments in theoretical and conceptual approaches to job stress* (Vol. 8, pp. 237-268). Emerald Group Publishing Limited.
- Karasek, R. A., Jr. (1979). Job demands, job decision latitude and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24, 285-308.  
<https://doi.org/10.2307/2392498>
- Kelly, M. (2019, March 22). 'Are you dumb?': Knights centre pleads guilty to Boxing Day taxi driver assault. *Sydney Morning Herald* [Sydney, Australia], 61.  
<https://link.gale.com/apps/doc/A579544041/OVIC?u=minn4028&sid=bookmark-OVIC&xid=a69e1a97>
- Klimley, K. E., Van Hasselt, V. B., & Stripling, A. M. (2018). Posttraumatic stress disorder in police, firefighters, and emergency dispatchers. *Aggression and Violent Behavior*, 43, 33-44. <https://doi.org/10.1016/j.avb.2018.08.005>
- Kusumoto, H. (2019, September 27), Marie accused of punching Tokyo taxi driver faces additional charges related to other attacks. *Stars and Stripes*.

<https://link.gate.com/apps/doc/A600937167/OVIC?u=minn4020&sid=bookmark-OVIC&xid=244f5d00>

La Torre, F., La Torre, G., & Sestili, C. (2019). Work related violence as a predictor of stress and correlated disorders in emergency department healthcare professionals. *La Clinica Terapeutica*, 170(2), e110-123. <https://doi.org/10.7417/CT.2019.2120>

Lakens, D. (2022). Sample size justification. *Collabra: Psychology*.  
[https://github.com/Lakens/sample\\_size\\_justification](https://github.com/Lakens/sample_size_justification)

Little, R. J. A., & Rubin, D. B. (2019). *Statistical analysis with missing data*. John Wiley and Sons.

Liu, W., & Taylor, B. (2018). Correctional officer fatalities in line of duty during 2005 to 2015: a survival analysis. *The Prison Journal*, 99(1), 26-45.  
<https://doi.org/10.1177/0032885518814705>

Losonczi, P. (2018). Risk of physical assaults on health care workers in course of their work. *The University of Security Management in Kosice*, 8(1), 22-34.  
<https://kbr.vsbm.sk/2018/n1/losonczi.pdf>

Maguire, B. J., O'Neill, B. J., O'Meara, P., Browne, M., & Dealy, M. T. (2018). Preventing EMS workplace violence: A mixed-methods analysis of insights from assaulted medics. *Injury, International Journal of Care Injured*, 49, 1258-1265.  
<https://doi.org/10.1016/j.injury.2018.05.007>

Makara-Studzinska, M., Wajda, Z., & Lizinczyk, S. (2020). Years of service, self-efficacy, stress and burnout among polish firefighters. *International Journal of*

*Occupational Medicine and Environmental Health*, 33(3), 283-297.

<https://doi.org/10.13075/ijomeh.1896.01483>

Marszalek, C. (2020). The emotional roller coaster of correctional officers: Not just a job.

*The Society: Sociology & Criminology Undergraduate Review*, 5(1), The

Emotional Roller Coaster of Correctional Officers: Not Just a Job | THE

SOCIETY: Sociology and Criminology Undergraduate Review (utoronto.ca)

McKendy, L., Ricciardelli, R., & Konyk, K. (2021). Trauma in the correctional field and the correctional worker habitus. *Incarceration*, 2(2).

<https://doi.org/10.1177/26326663211021727>

McKnight-Eily, L. R., Okoro, C. A., Strine, T. W., Verlenden, J., Hollis, N. D., Njai, R.,

Mitchell, E. W., Board, A., Puddy, R., & Thomas, C. (2021). Racial and ethnic

disparities in the prevalence of stress and worry, mental health conditions, and

increased substance use among adults during the COVID-19 pandemic – United

States, April and May 2020. *Morbidity and Mortality Weekly Report*, 70(5), 162-

166. <https://doi.org/10.15585/mmwr.mm7005a3>

McNeeley, S. (2021). Situational risk factors for inmate-on-staff assaults. *The Prison*

*Journal*, 101(3), 352-373. <https://doi.org/10.1177/00328855211010478>

Mills, S., & Owens, B. (2021). Customer abuse and aggression as labour control among

LGBT workers in low-wage services. *Work, Employment and Society*.

<https://doi.org/10.1177/09500170211045843>

Mistry, E. (2017). *Correctional officers “Through the looking glass”: Understanding perceptions and their impact on personal and professional identity* [Doctoral

dissertation, Wilfred Laurier University]. Scholar Commons.

<https://scholars.wlu.ca/cgi/viewcontent.cgi?referer=https://scholar.google.com/&httpsredir=1&article=3105&context=etd>

- Mohanty, J. R. (2019). Skilling self to better manage difficult people. *Journal of Organisation and Human Behavior*, 8(1), 40-48. <http://publishingindia.com/johb/>
- Morabito, M. S., Pattavina, A., Williams, L. M. (2020). Vicarious trauma, secondary traumatic stress or burnout?: An exploratory study of the effects of investigating sexual assault cases on detectives. *Policing: An International Journal*, 44(1), 77-92. <https://doi.org/10.1108/PIJPSM-07-2020-0123>
- Moran, D., & Turner, J. (2021). Drill, discipline and decency? Exploring the significance of prior military experience for prison staff culture. *Theoretical Criminology*. <https://doi.org/10.1177/13624806211031248>
- Mukherjee, S., Clouston, S., Bromet, E., Leibowitz, G. S., Scott, S. B., Bernard, K., Kotov, R., & Luft, B. (2020). Past experiences of getting bullied and assaulted and posttraumatic stress disorder (PTSD) after a severe traumatic event in adulthood: A study of World Trade Center (WTC) responders. *Journal of Aggression, Maltreatment, and Trauma*, 29(2), 167-185. <https://doi.org/10.1080/10926771.20181555873>
- Ntatamala, I. (2020). Predictors of post-traumatic stress disorder among ambulance personnel in the western Cape Province [Doctoral Dissertation, University of Cape Town].

[https://open.uct.ac.za/bitstream/handle/11427/35524/thesis\\_hsf\\_2021\\_ntatamala%20itumeleng%20mmoko%20theophelus.pdf?sequence=1&isAllowed=y](https://open.uct.ac.za/bitstream/handle/11427/35524/thesis_hsf_2021_ntatamala%20itumeleng%20mmoko%20theophelus.pdf?sequence=1&isAllowed=y)

Nora, E., & Fitri, P. (2020). Influence of work family conflict on job satisfaction through the employees' work stress at Islamic hospitals in Unisma Malang East Java Indonesia. *World Conference on Gender Studies, KnE Social Sciences* 117-131.

<https://doi.org/10.18502/kss.v4i10.7399>

O'Dowd, E., Lydon, S., Lambe, K., Vellinga, A., Rudland, C., Ahern, E., Hilton, A., Ward, M. E., Kane, M., Reader, T., Gillespie A., Vaughan, D., Slattery, D., & Oconnor, P. (2022). *Learning from complaints about hospital care*. National

University of Ireland Galway. <http://hdl.handle.net/10147/634200>

Padilla, K. E. (2020). Sources and severity of stress in a southwestern police department.

*Occupational Medicine*, 70(2), 131-134. <https://doi.org/10.1093/occmed/kqaa018>

Perez-Floriano, L. R., & Gonzalez, J. A. (2019). When the going gets tough: A moderated mediated model of injury, job-related risks, stress, and police performance. *International Journal of Organizational Analysis*, 27(4), 1239-1255.

<https://doi.org/10.1108/ijoa-05-2018-1423>

Pradana, L. R., Setyanti, S. W. L. H., & Utami, E. S. (2019). The analysis of effect double role conflict on performance with work stress female employees as a mediation. *International Journal of Economics and Business*, 4(1), 26-31.

[https://repository.unej.ac.id/bitstream/handle/123456789/91305/F.%20EB\\_Jurnal\\_Sri%20Wahyu%20Lelly%20HS\\_The%20Analysis%20of%20Effect%20Double.pdf?sequence=1&isAllowed=y](https://repository.unej.ac.id/bitstream/handle/123456789/91305/F.%20EB_Jurnal_Sri%20Wahyu%20Lelly%20HS_The%20Analysis%20of%20Effect%20Double.pdf?sequence=1&isAllowed=y)

- Price, M. (2017). Psychiatric disability in law enforcement officers. *Behavioral Sciences and the Law*, 35, 113-123. <https://doi.org/10.1002/bsl.2278>
- Raberus, A., Holmstrom, I. K., Galvin, K., & Sundler, A. J. (2019). The nature of patient complaints: A resource for healthcare improvements. *International Journal for Quality in Health Care*, 31(7), 556-562. <https://doi.org/10.1093/intqhc/mzy215>
- Reynolds, P. D., Fitzgerald, B. A., Hicks, J. (2017). The expendables: A qualitative study of police officers' responses to organizational justice. *Police Quarterly*, 21(1), 3-29. <https://doi.org/10.1177/1098611117731558>
- Regehr, C., Carey, M., Wagner, S., Alden, L. E., Buys, N., Cornell, W., Fyfe, T., Fraess-Phillips, A., Krutop, E., Matthews, L., Randall, C., White, M., & White, N. (2019). Prevalence of PTSD, depression and anxiety disorders in correctional officers: A systematic review. *Corrections Policy, Practice and Research*, 6(3), 229-241. <https://doi.org/10.1080/23774657.2019.1641765>
- Ricciardelli, R., & Carleton, R. N. (2021). A qualitative application of the job demand-control-support (jdcS) to contextualize the occupational stress correctional workers experience. *Journal of Crime and Justice*. <https://doi.org/10.1080/0735648X.2021.1893790>
- Ricciardelli, R., & Power, N. G. (2020). How “Conditions of confinement” impact “Conditions of employment”: The work-related well-being of provincial correctional officers in Atlantic Canada. *Violence and Victims*, 35(1). <https://doi.org/10.1891/0886-6708.W-D-18-00081>

- Rogers, C. W., Murphy, L. A., Murphy, R. A., Malouf, K. A., Natsume, R. E., Ward, B. D., Tansey, C., & Nakamura, R. K. (2022). An analysis of client complaints and their effects on veterinary support staff. *Veterinary Medicine and Science*, 8(2), 925-934. <https://doi.org/10.1002/vms3.725>
- Rozman, M., Grinkevich, A., & Tominc, P. (2019). Occupational stress, symptoms of burnout in the workplace and work satisfaction of the age-diverse employees. *Journal of Management, Informatics and Human Resources*, 52(1), 46-52. <https://doi.org/10.2478/orga-2019-0005>
- Sen, M., & Honavar, S. G. (2019). It's a doc's life – workplace violence against doctors. *Indian Journal of Ophthalmology*, 67(7), 981-984. [https://doi.org/10.4103/ijo.IJO\\_1166\\_19](https://doi.org/10.4103/ijo.IJO_1166_19)
- Shanmughavadivu, N., & Sethuramasubbiah, A. (2018). Occupational stress and work life balance among married women police. *International Journal of Research in Social Studies*, 8(1), 746-761. IJMRA-13192-with-cover-page-v2.pdf (d1wqtxts1xzle7.cloudfront.net)
- Shin, Y., Hur, W., & Kang, S. (2021). Mistreatment from multiple sources: Interaction effects of abusive supervision, coworker incivility, and customer incivility on work outcomes. *International Journal of Environmental Research and Public Health*, 18(10), 5377. <https://doi.org/10.3390/ijerph18105377>
- Short, N. A., Morabito, D. M., & Gilmore, A. K. (2020). Secondary prevention for posttraumatic stress and related symptoms among women who have experienced a recent sexual assault: A systematic review and meta-analysis. *Depression and*



*Anxiety During the Covid-19 Pandemic (and Other Trauma)*, 37(10), 1047-1059.

<https://doi.org/10.1002/da.23030>

Sienkiewicz, M. E., Amalathas, A., Iverson, K. M., Smith, B. N., & Mitchell, K. S.

(2020). Examining the association between trauma exposure and work-related outcomes in women veterans. *International Journal of Environmental Research and Public Health*, 17(12), 4585. <https://doi.org/10.3390/ijerph17124585>

Silva, W. S. A., & Malalage, G. S. (2021). Impact of workplace employee grievances on employee performance: Evidence from operational level employees in some selected apparel companies. *Journal of Business and Technology*, 5(2), 74-88.

<https://doi.org/10.4038/jbt.v5i2.34>

Skrabacz, A. (2020). Environment of prison staff as a source of threats – selected aspects.

*Annales Universitatis Mariae Curie-Sklodowska. Sectio Journal Paedagogia-Psychologia*, 33(1), 149-162. <https://doi.org/10.17951/j.2020.33.4.149-162>

Steiner, B., & Wooldredge, J. (2017). Individual and environmental influences on prison officer safety. *Justice Quarterly*, 34(2), 324-349.

<https://doi.org/10.1080/07418825.2016.1164883>

Sousa, M., Abrunhosa Goncalves, R., Cruz, A. R., & de Castro Rodriques, A. (2019).

Prison officers' attitudes towards self-harm in prisoners. *International Journal of Law and Psychiatry*, 66. <https://doi.org/10.1016/j.ijlp.2019.101490>

Sullivan, J. (2020). Comparing characteristics and selected expenditures of dual- and single-income households with children. *Monthly Labor Review*, U.S. Bureau of Labor Statistics. <https://doi.org/10.21916/mlr.2020.19>

- Thurston, R. C., Jakubowski, K., Chang, Y., Koenen, K., Maki, P. M., & Barinas Mitchel, E. (2021). Sexual assault and carotid plaque among midlife women. *Journal of the American Heart Association*, *10*(5), e017629. <https://doi.org/10.1161/JAHA.120.017629>
- To, Y., & Mandracchia, J. (2019). Learn about hierarchical linear regression in SPSS with data from prison inmates. In *Sage Research Methods Datasets Part 2*. SAGE Publications, Ltd. <https://doi.org/10.4135/9781526494290>
- Toolib, S. N., & Ruzainy Alwi, M. N. (2021). Job satisfaction, job demand, workaholism and supervisor support on presenteeism: A pilot study using structural equation modeling approach. *Global Business and Management Research: An International Journal*, *12*(4), 732-745. <http://gbmrjournal.com/pdf/v12n4/V12N4-71.pdf>
- Trounson, J. S., & Pfeifer, J. E. (2017). Correctional officers and workplace adversity: identifying interpersonal, cognitive, and behavioral response tendencies. *Journal of Correctional Health Care*, *23*(4). <https://doi.org/10.1177/1078345817720923>
- Turner, J., & Moran, D. (2021). Bridging the gap? Ex-military personnel and military-civilian transition within the prison workforce. *Armed Forces and Society*. <https://doi.org/10.1177/0095327X211039879>
- Useche, S. A., Montoro, L. V, Ruiz, J.I., Vanegas, C., Sanmartin, J., & Alfaro, E. (2019). Workplace burnout and health issues among Colombian correctional officers. *PLoS ONE*, *14*(2), e0211447. <https://doi.org/10.1371/journal.pone.0211447>

- Villotti, P., Corbiere, M., & Guay, S. (2020). Posttraumatic stress disorder and quality of life in victims of violent a act at work: A longitudinal study. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*(3), 313-319.  
<https://doi.org/10.1037/tra0000491>
- Waddell, E., Moretti, C., Wadham, B., Halsey, M., Hordacre, A., Toole, K., & Collins, P. (2021). *What are the risk factors for ex-serving defense force personnel to enter corrective service systems in Australia and/or other relevant jurisdictions?* Finders University. <https://www.dva.gov.au/sites/default/files/2021-11/Rapid%20Evidence%20Assessment.pdf>
- Walters, G. D. (2022). Getting to the source: How inmates and other staff contribute to correctional officer stress. *Journal of Crime and Justice*, *45*(1), 73-86.  
<https://doi.org/10.1080/0735648X.2020.1862696>
- World Health Organization. (2020, October 19). *Occupational health: Stress at the workplace*. <https://www.who.int/news-room/q-a-detail/ccupational-health-stress-at-the-workplace>