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Moderating Effects of Resilience and Recovery on the Stressor-Strain Relationship Among Law Enforcement Officers

Austin Hearne
Minnesota State University, Mankato

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Moderating Effects of Resilience and Recovery on the Stressor-Strain Relationship
Among Law Enforcement Officers

By
Austin Hearne

A Thesis Submitted in Partial Fulfillment
of the Requirements for
Masters of Arts
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among Law Enforcement Officers

Austin Hearne

This thesis has been examined and approved by the following members of the student's
committee.

Advisor: Dr. Lisa Perez

Committee Member: Dr. Kristie Campana

Committee Member: Dr. Marilyn Fox

Abstract

Moderating Effects of Resilience and Recovery on the Stressor-Strain Relationship Among Law Enforcement Officers.

Hearne, Austin M., M.A. Minnesota State University, Mankato, 2017.

The purpose of this study is to investigate the relationships between individual resilience, recovery from work, and the relationship between stressors and strains in a sample of police officers. I primarily plan to test whether individual resiliency and recovery moderates the relationship between law enforcement-related organizational and operational stressors and strains such as burnout, sleep disturbances and poor general well-being. I hypothesize that individual resiliency and recovery will both moderate the stressor-strain relationship, so that officers who exhibit higher resiliency and engage in appropriate recovery will experience less strain from the stressors of their occupation. Additionally, I hypothesize that recovery will mediate resilience's moderation effect on the stressor-strain relationship in a mediated-moderation model.

Moderating Effects of Resilience and Recovery on the Stressor-Strain Relationship Among Law Enforcement Officers

Workplace stress is a common experience for most workers. While the body generally returns to a normal state quite quickly following exposure to acute stress, exposure to chronic stressors prevents the body from being able to return to a normal state and recover properly. For many individuals, their job represents a chronic stressor (Sapolsky, 1994). According to the American Institute of Stress, not only do American adults report work as the major source of stress in their lives, but it is a growing problem. In many large urban police forces, workplace stress is such a common issue that coronary events suffered by officers during their off-work time are still assumed to be workplace related (AIS, n.d.). The National Institute for Occupational Safety and Health (NIOSH) reported in 1999 that 40% of workers reported that their job was very or extremely stressful. The American Institute of Stress reported in 2001 that 80% of workers feel stress on the job and 50% reported that they needed help dealing with the stress. Not only did workers report that they needed help dealing with stress, but 42% also reported that their coworkers needed such assistance as well. The American Psychological Association (2011) reported that only 57% of employees are satisfied with the work-life balance they currently have and 36% reported that they were typically stressed out during their workday. In addition, the APA found 1 in 5 employees reports their average workplace stress is very high (8, 9, or 10 on a 10-point scale).

Prolonged exposure to workplace stressors results in work-related strain. Strain consists of the deleterious effects of these stressful working conditions for a person's health and wellbeing, increasing a person's risk for diseases such as diabetes, atherosclerosis, hypertension,

and coronary heart disease (Spector & Jex, 1998; Sapolsky, 1994). Strain may also be reflected by organizational measures such as increased absenteeism, reduced productivity (Fox, Dwyer & Ganster, 1993), reduced job engagement (Sonnetag & Niessen, 2008), and increased burnout (Sonnetag & Fritz, 2007). Strain can also be characterized by behaviors exhibited by the individual, such as increased smoking (Spector & Jex, 1998) and alcohol abuse (Gershon, Barocas, Canton, Li, & Vlahov, 2009; Menard & Arter, 2013). According to the Center for Disease Control and Prevention, these negative outcomes cost U.S. businesses \$225.8 billion dollars annually (2015). As these costs of occupational health and wellbeing continue to rise, it is crucial to examine what factors can contribute to employees' health (Bakker & Schaufeli, 2008).

Law enforcement is an exceptionally stressful occupation entailing high levels of both physical and cognitive strain (Gershon et al., 2009). The stress of police work has been known to lead to cardiovascular disease and depression (Brown & Campbell, 1990; Franke, Ramsey & Shelly, 2002; Gershon et al., 2009) as well as maladaptive coping behaviors such as excessive alcohol consumption (Gershon et al., 2009; Hakan Can & Hendy, 2014; Kohan & O'Connor, 2002) and extreme aggression and violence both on and off the job (Gershon et al., 2009; Kohan & O'Connor, 2002; Violanti, Marshall & Howe, 1985). In addition, Violanti (2004) found that not only were police officers at higher risk of alcoholism than the general population, but were also at higher risk of displaying suicidal ideation and Post-Traumatic Stress Disorder (PTSD) (Violanti, 2006). Though ongoing efforts have helped to generate awareness of these issues, physical and psychological issues due to strain from job stressors continues to grow (Collins & Gibbs, 2003).

In this study, I will examine two stress-related factors that researchers have identified that contribute to health rather than strain: resilience and recovery. Resiliency describes one's ability

to bounce back from adverse or traumatizing events (Earvolino-Ramirez, 2007; Luthar, Cicchetti & Becker, 2000; Masten, 2001). Recovery is a process that involves the individual returning to a state of equilibrium after resources are depleted by a threat or stressor event (Sonnentag & Fritz, 2007). Conservation of Resources (COR) Theory (Hobfoll, 1989) can be used to explain how both resilience and recovery prevent strain.

COR Theory states that individuals have valued objects, personal characteristics, energies, and conditions which are labeled resources. These include friendships and relationships, skills, money, time, status, intelligence and personal characteristics such as extraversion and cleanliness. Individuals seek to gain and conserve their resources. Stress occurs when an individual is threatened with resource loss, actually loses resources, or fails to recover a sufficient amount of resources after losing them. The loss of resources is more salient to individuals than resource gain, and sustained resource loss produces greater stress responses. While appraisal does play a role in COR Theory, such as with the perceived instability of resources, resources are considered observable and how well resources can meet demands is considered more objective (Hobfoll, 1989).

If resiliency refers to one's ability to bounce back from negative events (Earvolino-Ramirez, 2007; Luthar, Cicchetti & Becker, 2000; Masten, 2001), then the likelihood that an individual will be resilient in adversity may be a function of the resources at their disposal. If we examine resiliency through COR Theory, individuals seek to gain resources and place high value upon them because it provides the individual with defense against stressful events (Earvolino-Ramirez, 2007; Friberg, Barlung, Martinussen, Rosenvinge & Hjemdal, 2005; Green, Wallace & Hargrove, 2016; Masten, 2001). Furthermore, resilience itself may be a resource and a resilient individual may expend fewer resources in times of adversity. The more resources they have, the

more stress they can effectively weather. Additionally, COR Theory states that resource depletion causes stress, and that the individual will seek to replenish these resources. Recovery, on the other hand, occurs after resources have been depleted. Recovery is an important process as it refers to activities an individual participates in to replenish these resources (Geurtz & Sonnentag, 2006). Resources may be valued because they allow the individual to gain more resources (Hobfoll, 1989). As such, recovery can be viewed as a transaction of some resources, such as friendships, time, and physical or mental energy, to restore resources lost.

Resilience

While stressful working conditions can lead to strain, stressors do not affect all people equally. Thus, researchers investigated which traits and circumstances protect individuals from experiencing strain. For instance, a large body of research demonstrates the protective effects of social support (Friborg, Hjemdal, Rosenvinge & Martinussen, 2003). Similarly, many personal and situational characteristics, such as resilience, may have beneficial effects. While resilience has been defined in a variety of ways, a common theme of all definitions is that resilient individuals are able to bounce back from adverse circumstances and events. Resiliency is "...a dynamic process encompassing positive adaptation within the context of significant adversity" (Luthar, Cicchetti & Becker, 2000, p. 543) and has long been of interest to psychological researchers (Friborg, Barlung, Martinussen, Rosenvinge & Hjemdal, 2005).

Early research on resiliency focused on the well-being of children in disadvantaged environments and researchers found it to be quite common, suggesting that it may be a defense mechanism utilized to protect people from significant setbacks and allow them to persevere in the face of obstacles (Bonanno, 2004; Masten, 2001). Research later expanded to the examination of children (Luthar, Cicchetti, & Becker, 2000; Masten, 2001) and adults seeking

help for significant emotional or psychological trauma. It became clear that, due to differences in development and trauma exposure, resiliency in adults should be considered differently from resiliency in adolescents and children (Bonanno, 2004).

Early research on resilience also examined it as a personality trait, something largely static and unchanging at an individual level (Earvolino-Ramirez, 2007). However, the idea that resilience was a static trait fell out of favor as studies demonstrated that experiences throughout life can produce strengths or create weaknesses that affect an individual's ability to weather future adverse events (Earvolino-Ramirez, 2007; Luthar, Cicchetti & Becker, 2000; Masten, 2001). Current conceptualizations of resilience view it as a dynamic process influenced by an individual's personality traits, and by situational factors such as the perceived availability of resources such as a social support network or being in a healthy relationship (Earvolino-Ramirez, 2007). These personal and situational factors act as protective factors enabling individuals to bounce back from adverse situations more easily (Earvolino-Ramirez, 2007; Friberg, Barlung, Martinussen, Rosenvinge & Hjemdal, 2005; Green, Wallace & Hargrove, 2016; Masten, 2001).

Antecedents of Resilience

Garmezy and Rodnick (1959) identified resilience-promoting factors, or protective factors, in their pioneering work on psychological resilience. Originally termed "psychosocial resources," these were factors that identified those who quickly recovered from trauma. An internal locus of control, an easy-going temperament, positive relationships, and even a strong sense of humor have been identified as protective factors (Caldeira & Timmins, 2016; Earvolino-Ramirez, 2007; Garmezy & Rodnick, 1959). The presence of protective factors is required for an individual to demonstrate resilience (Earvolino-Ramirez, 2007).

Though there is some disagreement on which protective factors matter most in the promotion of resilience, all protective factors fall into three general categories: attributes of the individual, characteristics of an individual's family life, and characteristics of an individual's social support network (Earvolino-Ramirez, 2007; Friborg, Hjemdal, Rosenvinge & Martinussen, 2003; Garmezy & Rodnick, 1959; Luthar, Cicchetti, & Becker, 2000;).

Multiple potential protective factors have been examined in a variety of studies (Earvolino-Ramirez, 2007; Friborg, Hjemdal, Rosenvinge & Martinussen, 2003; Garmezy & Rodnick, 1959) and the results paint a picture of who is resilient. Resilient individuals have an internal locus of control and believe they can change their circumstances, are emotionally stable, and have a positive view of their future. Resilient individuals display emotions such as compassion and anger when the circumstance is appropriate and have empathy for others. Finally, resilient individuals acquire and maintain healthy relationships (Earvolino-Ramirez, 2007; Friborg et al., 2005; Garmezy & Rodnick, 1959; Luthar, Cichetti, & Becker, 2000).

Resilience in the Workplace

A construct such as resiliency is of importance to both individual workers and to organizations due to individuals who are resilient to stress being less likely to experience strain (Green, Wallace & Hargrove, 2016). Resilience is a construct of particular interest for those studying highly stressful occupations such as law enforcement (Gershon et al., 2009; Violanti, 2006), emergency medical support teams and air traffic controllers (Green, Wallace & Hargrove, 2016) and has even been examined as an organizational trait (Violanti, 2006).

There are several reasons why resiliency is important to organizations and their workforces. Individuals high in resiliency tend to experience more growth and development from highly stressful or traumatic experiences and can be more apt to handle future stressful situations

successfully. For example, new police recruits who have experienced significant trauma before becoming police officers handle future trauma better than those who have not and officers who are resilient psychologically adapt better to the role of police officer (Violanti, 2006).

Research on stress in policing often distinguishes between organizational stressors and operational stressors. Organizational stressors refer to the standard set of work-related stressors present in many occupations, e.g., workload, supervisory relationships, and role conflict. Operational stressors refer to those stressors that are more specific to law enforcement work, e.g., dealing with trauma victims, dealing with the public in general, and threats to personal safety. Violanti (2006) reported that the organizational characteristics of the police department are equally as important as the operational experiences when examining officer stress and well-being. In fact, Violanti (2006) and Burke, Shakespeare-Finch, Paton and Ryan (2006) suggest that resilience can be examined at a departmental level as resiliency has a social component influenced by organizational characteristics such as structure and policy.

Recovery

An additional factor that may relate to resilience is recovery. Researchers have recently begun to examine what individuals do when they are not at work that helps them to recover. In other words, what prepares them to be engaged and effective as opposed to exhausted and ineffective when they return to work. This has been examined across vacation breaks (Fritz & Sonnentag, 2006), weekends (Sonnentag, 2003), evenings (Sonnentag, Binnewies, & Mojza, 2008), and even lunch breaks (Demerouti, Bakker, Sonnentag, & Fullagar, 2012). While resiliency refers to one's ability to, in the face of serious threats, maintain equilibrium (Bonanno, 2004) and grow and adapt from the experience (Friborg et al, 2005; Marsten, 2001), recovery describes returning to equilibrium over time from a temporary depletion due to a threat or

stressor (Sonnentag & Fritz, 2007). Sonnentag and her colleagues identified different off-work experiences that can influence the recovery process (Sonnentag, Binnewies & Mojza, 2008; Sonnentag & Fritz, 2007). In particular, they identified psychological detachment, mastery experiences, and relaxation as key contributors to recovery.

Psychological Detachment

Psychological detachment means that the individual is both physically and mentally absent from the work environment. Someone who continues to ruminate over upcoming deadlines or work tasks is still being stressed by the work environment, even if they are physically absent from work. Recovery cannot occur if the individual is ruminating over their job, and as such, the continued presence of the stressors continues to deplete resources leading to strain (Meijman & Mulder, 1998). Furthermore, and perhaps, obviously, individuals who do not physically detach from work (e.g, working overtime, taking work home, working second jobs) cannot psychologically detach from work. Research has shown that workers who are successful in psychologically detaching from work experience a reduction in both psychological (Sonnentag & Fritz, 2007) and physiological strain (Brosschot, Gerin & Thayer, 2006).

Relaxation

Relaxation is characterized by a reduction in heartrate, muscle tension, and other symptoms of activation of the sympathetic nervous system (Sonnentag, Binnewies & Mojza, 2008; Benson, Greenwood & Klemchuk, 1975). Relaxation is an important part of the recovery process because highly demanding work produces a heavy cognitive or physical load and over time can wear an individual out. Relaxation allows the individual to engage in activities that are not physically or cognitively demanding which increases an individual's positive affect (Sonnentag & Fritz, 2007). Individuals engage in relaxation when they choose activities that

require minimal social, cognitive or physical effort and do not utilize resources taxed by work (Sonnentag & Fritz, 2007). Activities that may facilitate relaxation include meditation (Davidson, Kabat-Zinn, Schumacher, Rosenkranz, Muller, Santorelli & Sheridan, 2003), mindfulness (Brown & Ryan, 2003) or breathing exercises (Ballinger & Heine, 1991; Miller & Perry, 1990).

Mastery Experiences

In contrast to relaxation experiences, mastery experiences challenge an individual, but in a way separated from the constraints of the workplace (Sonnentag & Fritz, 2007). These are activities unrelated to work that an individual partakes in that present a challenge while also allowing for the individual to gain skill and demonstrate competency, such as learning a new language or partaking in a hobby (Sonnentag & Fritz, 2007). While mastery experiences do present a challenge and it may seem like such activities would tax additional resources, it is one that the individual willingly chooses to partake in and does not overtax the individual's current level of competency while also providing new skills and an improved self-efficacy for the individual (Hobfoll, 1989; Sonnentag & Fritz, 2007). Furthermore, mastery experiences may tax different resources than those used at work. For example, an individual with a cognitively demanding but sedentary job may engage in mastery experiences of a physical nature (e.g., training for a marathon) that tax a different system than his or her job and still allows the cognitive resources to recover.

The Present Study

This study will investigate how operational and organizational stressors, individual resiliency and work recovery affect strain by using a moderation model. I will examine how the relationship between operational and organizational stressors and strain is moderated by levels of individual resilience as well as by engaging in different recovery experiences. While the COR

model is a reasonable explanation of the relationships among variables in this study, Bakker and Demerouti's (2007) Job Demands-Resources (JDR) model is also relevant. According to Bakker and Demerouti's (2007) JDR Theory, strain occurs when an individual has demands put upon them by their job that they lack the resources to effectively deal with. Figure 1 shows Bakker and Demerouti's (2007) JDR model and the theoretical interaction of demands and resources on strain. The four boxes represent how high and low demands interact with high and low resources and what each of the four interactions produces in an individual. For example, someone in a job with high demands that's also lacking the resources to effectively deal with those demands experiences high levels of strain and a lack of motivation to work, essentially experiencing burnout. However, someone else can have that same job with the same level of demands but has adequate resources at their disposal to deal with these demands. They still experience moderate strain due to their resources being adequate to handle the job's demands, and as such the job is challenging but not overbearing.

Recovery experiences and resilience are analogous to resources the officers have available to deal with job demands, operationally defined as organizational and operational stressors officers experience at work. Figure 2 displays the proposed model the study plans to investigate. Figures 3 and 4 show the form of the predicted relationships.

Figure 1. Job Demands-Resources Model.

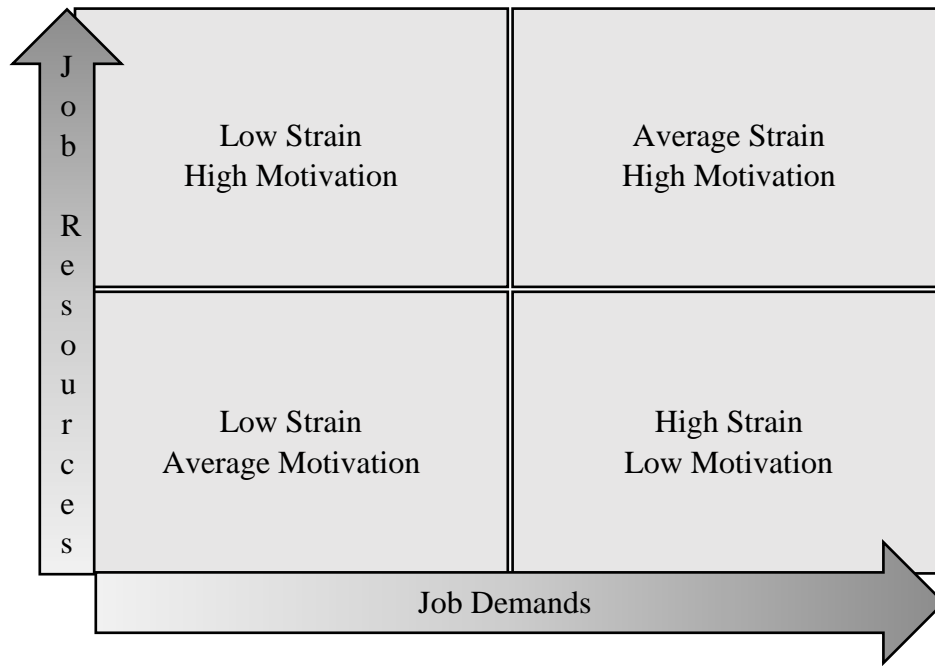
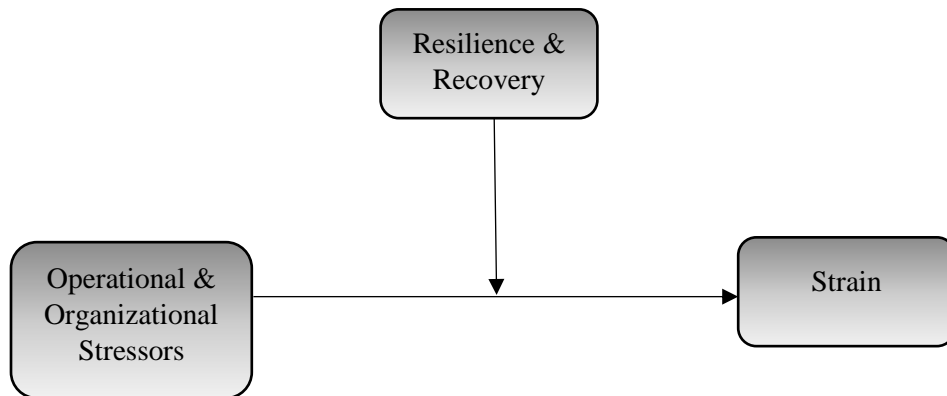


Figure 2. Moderation model investigated.



Proposed Hypotheses

As resiliency is known to be correlated with positive outcomes and resistance to detrimental effects of stressful situations, I expect resilient individuals to perceive fewer workplace stressors and to experience less strain.

Hypothesis 1: Resiliency will be negatively related to organizational and operational stressors.

Hypothesis 2: Resiliency will be negatively related to strain (burnout, sleep difficulties, lack of general well-being)

Additionally, those who engage in more recovery activities following stressful events may suffer less from the negative effects of those events.

Hypothesis 3: Recovery activities will be negatively related to strain (burnout, sleep difficulties, lack of general well-being)

My next hypotheses examine the moderating effects of resilience and recovery on the relationship between operational and organizational stressors and strain.

Hypothesis 4: Resilience will moderate the relationship between organizational and operational stressors and strain (See Figure 3). The form of this relationship will be such that the positive stressor-strain relationship will be weaker among those high in resilience.

Hypothesis 5: Recovery activities will moderate the relationship between organizational and operational stressors and strain (See Figure 4). The form of this relationship will be such that the positive stressor-strain relationship will be weaker among those who engage in more recovery activities.

The final hypothesis will investigate if resilience and recovery share a significant amount of the variance in the stressor-strain relationship using a mediated-moderation model as shown in Figure 5.

Hypothesis 6: Recovery and resilience will share a significant amount of the variance in the stressor-strain relationship (See Figure 5). The form of this relationship will be such that recovery partially mediates resilience's influence on the stressor-strain relationship.

Figure 3. Resilience and the stressor-strain relationship.

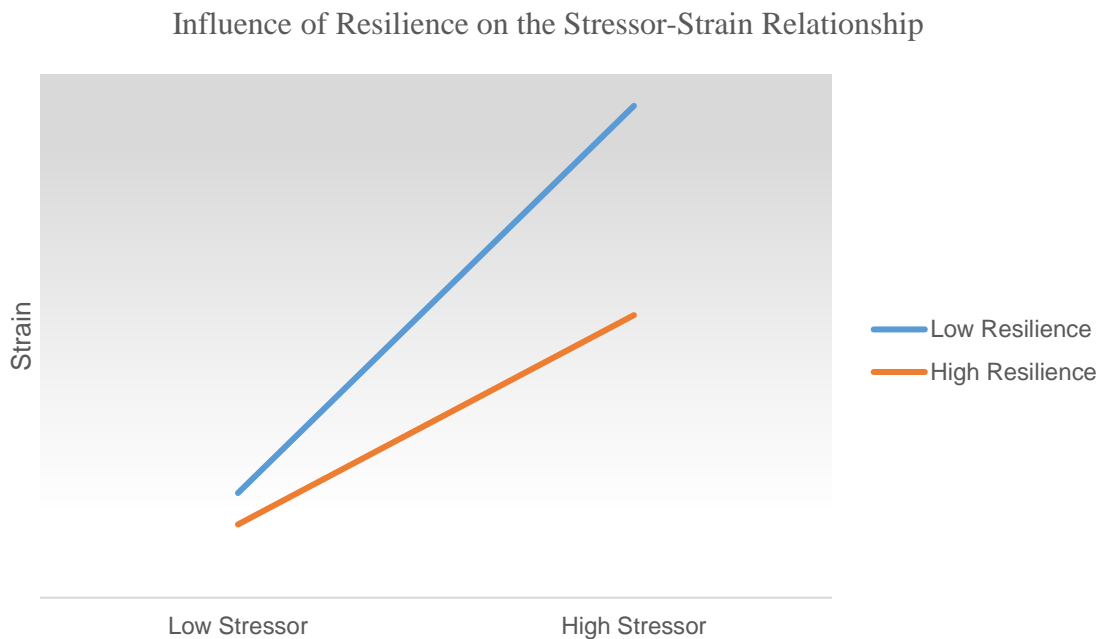
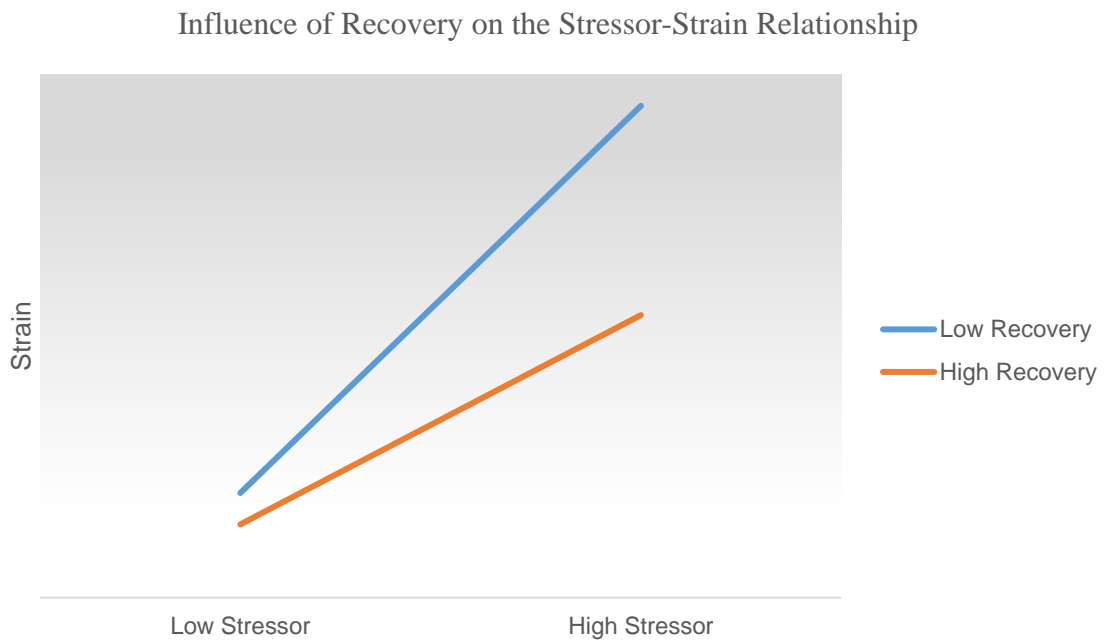


Figure 4. Recovery and the stressor-strain relationship.



Proposed Methods

Participants

The population consists of 1,849 sworn officers, 452 civilian employees, 486 volunteer employees, and 31 reserve officers recruited from a large, southeastern US police department. In addition to the sworn officers, the other employees in the sample are crime scene investigators, crime scene photographers, administrators, 911 phone operators and police lawyers. Officers and employees work 1st, 2nd, and 3rd shifts.

Procedures

The proposed study will be an online survey examining the relationships between resilience, recovery, operational and organizational stressors and strain in a large urban police force. Participants will receive an email inviting them to participate in the study and explaining the nature of the study and how the results will be used. The email will contain a link to the online survey hosted by Qualtrics. I will inform participants that their responses will remain confidential.

Measures

The survey consists of measures of resilience, recovery, operational and organizational stressors and strain as well as demographic questions.

Resilience

Resilience will be assessed using the Brief Resiliency Scale (BRS) developed by Smith, Dalen, Wiggins, Tooley, Christopher, and Bernard (2008). The scale consists of six items rated on a 1 to 5 Likert-style scale. Example items include “I tend to bounce back quickly after hard times.” and “I have a hard time making it through stressful events.” Smith et al. (2008) reported a Cronbach’s alpha of 0.91 for the scale.

Recovery Experiences

Three distinct recovery experiences will be investigated: psychological detachment, mastery, and relaxation, by utilizing the Recovery Experience Questionnaire developed by Sonnentag and Fritz (2007). The measure consists of 12 items in total, four measuring each type of recovery experience. Participants will be asked to respond to each item in regards to how they use their free evenings on a 1 to 5 Likert-type scale with responses ranging from “I do not agree at all” to “I fully agree”. Example items include “During my time away from work I learn new things.” (Mastery), “During my time away from work I kick back and relax.” (Relaxation), and “During my time away from work I distance myself from my work.” (Psychological Detachment). Sonnentag and Fritz (2007) reported a Cronbach’s alpha of .85 for the Relaxation, Mastery, and Psychological Detachment subscales.

Stressors

The Police Stress Questionnaire (McCreary & Thomson, 2006) will be used to assess law enforcement-related organizational and operational stressors. This scale contains two subscales, Operational and Organizational Stressors. McCreary and Thomson reported a Cronbach’s alpha of 0.90 for the Operational Stressor subscale and 0.89 for the Organizational Stressor subscale. Items are rated on a 1 to 7 Likert-type scale with 1 being “Not at all stressful” and 7 being “Very stressful.” Example items include “Working alone at night.” and “Constant changes in policy/legislation.”

Strain

Strain will be assessed with three different measures. A measure of burnout, a measure of sleep difficulties and a measure of (poor) general well-being.

General Well-Being. The short, four-item version of the Perceived Stress Scale from Cohen, Kamarck, and Mermelstein (1983) will be used to assess each officer's perceived level of general well-being. Example items include "In the last month, how often have you felt that you were unable to control the important things in your life?" and "In the last month, how often have you felt that things were going your way?" scored on a five point Likert-type scale from strongly disagree to strongly agree. Cohen, et al. (1983) reported a Cronbach's alpha of .72 for the four-item version of their measure.

Sleep Difficulties. Sleep difficulties will be assessed using a subscale of the Physical Health Questionnaire (PHQ) developed by Schat, Kelloway, and Desmarais (2005). The (PHQ) asks participants to report the frequency with which they have experienced a variety of physical symptoms of strain such as headaches, sleep disturbances, and gastrointestinal problems. Only the Sleep Disturbance subscale will be used in this study. Responses are made on a 1 to 7 Likert-type scale from "Not at all" to "All the time." Schat, Kelloway, and Desmarais (2005) reported a Cronbach's alpha of 0.81 for the Sleep Disturbance subscale. Example items include "How often have you had difficulty getting to sleep at night?" and "How often have you woken up during the night?"

Burnout

The Oldenburg Burnout Inventory (Demerouti, 1999) will be used to assess burnout. The self-report inventory consists of 16 questions, and comprises two distinct subscales, Disengagement (8 questions) and Exhaustion (8 questions). Items are rated on a four-point Likert Scale ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). Example items include, "I always find new and interesting aspects in my work" and "During my work, I often feel emotionally drained." Halbesleben and Demerouti (2005) further expanded on the psychometric

properties of the English translation of the measure and reported Cronbach's alpha values ranging from .74 - .79 (exhaustion) and .76 - .83 (disengagement) for a sample of working adults.

Proposed Analyses

Hypotheses 1, 2 and 3 will be examined using bivariate correlations. Hypotheses 4 and 5 will be tested using moderated regression as outlined by Baron & Kenny (1986). This will be done by first regressing strain on organizational and operational stressors, recovery and resilience, followed by the second step of producing multiplicative interaction terms for both recovery and organizational and operational stressors and resilience and organizational and operational stressors. Burnout, sleep difficulties, and lack of general well-being will be the strain outcomes for all moderated regressions.

Preliminary Discussion

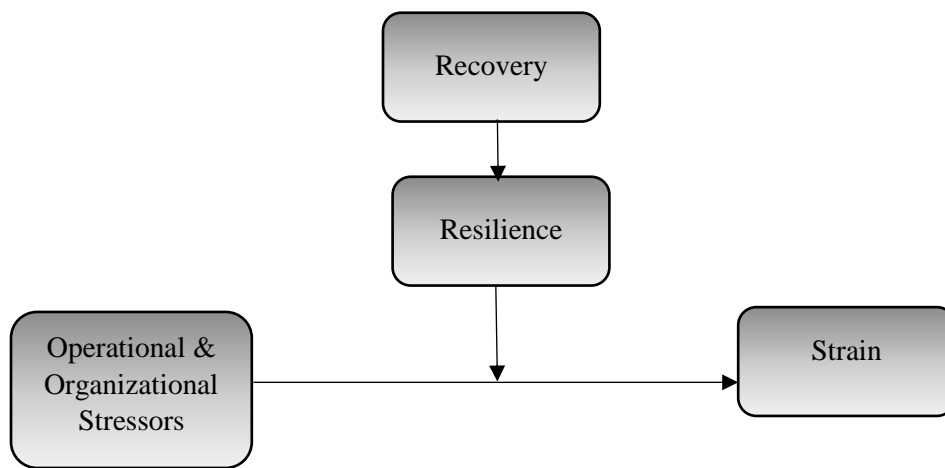
The purpose of this research was to investigate the relationships between individual resilience, recovery from work, and the relationship between stressors and strains in a sample of police officers. I primarily planned to test whether individual resiliency and recovery moderates the relationship between law enforcement-related organizational and operational stressors and strains such as burnout, sleep disturbances and poor general well-being as well as examining if recovery mediated resilience's moderation of the stressor-strain relationship in a mediated-moderation model. Due to the complexity of data collection and time restrictions imposed by the contact who provided sample access being out of the country, data was not able to be collected to test the hypotheses in a timely manner.

This study's data collection was to be conducted through survey using Qualtrics, however, there are other possible ways to collect data to examine the proposed relationships between constructs. Future researchers could utilize focus groups to gather data on recovery methods commonly used and common stressors and strains. One-on-one interviews with participants could also have been utilized to obtain information relating to recovery, resilience, and stressors and strains. This study's sample was to come from a population of 1,849 sworn officers, 452 civilian employees, 486 volunteer employees, and 31 reserve officers from a large southeastern urban police department. Due to this, results could change depending on the geographical location and urban or rural setting of police departments sampled for future research. In addition, this study's design was cross-sectional, so a longitudinal study could find different results as well as test the effects of employee wellness programs utilizing recovery experiences or selection systems implementing resilience measures. Researchers should be aware of these sampling concerns when testing these proposed hypotheses. This proposed study was modeled off of Hobfoll's (1989) Conservation of Resources (COR) model and Bakker and Demerouti's (2007) Job Demands-Resources (JDR) model and considered both resilience and recovery as resources. Researchers utilizing different theoretical models may need to develop different hypotheses and analyses than those proposed in this study.

This study's primary contribution to theory is in examining how, as constructs, resilience and recovery interact with the stressor-strain relationship. It could be that recovery and resilience share much of the variance in the stressor-strain relationship. As it can be postulated that recovery from work helps bolster an individual's resilience, it could be that recovery explains much of the variance in resilience to stress among workers. This is due to strain resulting from prolonged exposure to workplace stressors (Spector & Jex, 1998; Sapolsky, 1994), and recovery

as a construct being what activities individuals participate in outside of work that prevents them from returning to work ineffective and exhausted (Fritz & Sonnentag, 2006). In fact, since recent conceptualizations of resilience consider it a dynamic process as opposed to a static trait (Earvolino-Ramirez, 2007), and part of this process is the perceived availability of resources (Social support, healthy relationships, etc.), it could also be argued that recovery is actually a resource and part of the dynamic process that determines resilience (Earvolino-Ramirez, 2007; Friberg, Barlung, Martinussen, Rosenvinge & Hjemdal, 2005; Green, Wallace & Hargrove, 2016; Masten, 2001).

Figure 5. Proposed mediated-moderation model



This study's primary contributions to practice come from examining the constructs of resilience and recovery in the context of an exceptionally stressful occupation, law enforcement (Gershon et al., 2009). Strain from occupational stressors is correlated with numerous deleterious outcomes for both the individual, such as atherosclerosis, hypertension, and coronary heart disease (Spector & Jex, 1998; Sapolsky, 1994), and the organization, such as absenteeism, reduced productivity (Fox, Dwyer & Ganster, 1993). As such, research investigating what

constructs influence the stressor-strain relationship can provide valuable insight for occupational health and safety and employee wellness plans.

If resilience is found to significantly impact the stressor-strain relationship, as hypothesized due to resilient individuals being better able to overcome negative events (Earvolino-Ramirez, 2007; Luthar, Cicchetti & Becker, 2000; Masten, 2001), then this initially seems to provide evidence for police departments to consider utilizing measures of resilience when selecting who to hire for not just sworn-in officers, but crime scene photographers, 911 operators, and crime scene investigators. However, due to recent conceptualizations of resilience as a dynamic process (Earvolino-Ramirez, 2007), police departments should be wary of utilizing a one-time measure of resilience to select applicants to hire, as it is influenced by situational factors and circumstances. In addition, as recent conceptualizations of resilience view it as a dynamic process instead of a static trait by involving availability of resources such as a social support network (Earvolino-Ramirez, 2007), this provides evidence for departments to provide support resources preemptively, such as making therapy or support groups available, so that they act as protective factors against adverse events (Earvolino-Ramirez, 2007; Friborg, Barlung, Martinussen, Rosenvinge & Hjemdal, 2005; Green, Wallace & Hargrove, 2016; Masten, 2001).

If recovery is found to significantly impact the stressor-strain relationship as anticipated (Sonnentag, 2003; Fritz & Sonnentag, 2006; Sonnentag, Binnewies, & Mojza, 2008), then this would provide evidence for implementing policies that allow employees to spend proper amounts of time away from work as well as educating employees on effective strategies for recovery from work they can engage in (Sonnentag, Binnewies, & Mojza, 2008), as opposed to maladaptive coping mechanisms such as smoking (Spector & Jex, 1998) and alcohol abuse (Gershon, Barocas, Canton, Li, & Vlahov, 2009; Menard & Arter, 2013).

Additionally, if resilience and recovery are found to share much of the variance in the stressor-strain relationship, then this supports the idea proposed earlier that recovery is actually a resource and part of the dynamic process that determines resilience, not an entirely separate construct. In practice, this provides additional evidence to support providing employees with resources to handle stressors as well as the detrimental effects of nonstandard work hours (40+) on employees' capabilities to handle future adverse events.

Future research

Future research should test the hypotheses proposed, as it could be that the constructs of resilience and recovery are actually very similar or that recovery is a function of the dynamic process of resilience. In addition, future research should examine the three types of recovery and examine each one's influence in the moderation and mediated-moderation models. Future research should consider resilience and recovery's relationship to operational and organizational stressors separately to determine possible differences in how they influence the stressor-strain relationship of each. In addition, hours worked and maladaptive coping mechanisms should be investigated to determine their influence on the proposed model. The proposed hypotheses should also be tested in rural and foreign police departments. In addition, the proposed hypotheses should also be tested in occupations that could have similar separation and categorization of stressors as law enforcement, such as the military.

Conclusion

Identifying the characteristics and habits of officers who are effective in handling both organizational and operational stressors will help provide information for the selection of future officers as well as proper policy to provide appropriate resources to officers to reduce strain. If

the hypotheses are supported, the results could be used to select and train police officers who are most apt to handle stressors in a healthy and effective way.

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Appendix A

Dear Participant:

You are invited to participate in a research study regarding stressors law enforcement officers experience and how officers recover from experiencing these stressors. This study is being conducted by Dr. Lisa Perez and graduate student Austin Hearne in the Industrial-Organizational Psychology program at Minnesota State University, Mankato.

By completing and submitting the online questionnaire, you are providing us with valuable research data.

If you wish to participate in this study, please take 15-20 minutes to complete the questionnaire using the link provided.

The Charlotte-Mecklenberg Police Department (CMPD) has provided us with the opportunity to collect the data. Your position and the department you work in will be sent to us. After your participation has been verified, all identifying information will be removed. Because your questionnaire will be submitted online to researchers, we will not be able to link your name to your survey responses and we will be unable to provide the CMPD with individual responses. Any reports made to the CMPD will involve responses aggregated across groups of respondents.

Data from the surveys will be used for research purposes only. Your participation in this study is entirely voluntary and whether or not you choose to participate will have no effect on your relationship with the Charlotte-Mecklenberg Police Department or Minnesota State University, Mankato. If you feel uncomfortable with a question, feel free to skip it. If you choose not to participate, simply delete this email. If you begin the survey, and decide you no longer wish to participate, simply exit the survey and close your browser window.

Individuals with disabilities may obtain the questionnaire in an alternate format on request. If you have any questions regarding this study, please contact Austin Hearne at the number listed below or contact Dr. Lisa Perez at (507) 389-5696. For questions concerning research on human subjects, contact Dr. Barry Ries at Minnesota State University, Mankato at (507) 389-1242.

Thank you for your participation.

Austin Hearne
Industrial-Organizational Psychology Masters Candidate
Minnesota State University, Mankato
austin.hearne@mnsu.edu
(757) 969-2611

Appendix B
Proposed Survey

Q2 For each statement, please select the option that best describes how you feel about your work.

| | Strongly disagree (1) | Disagree (2) | Neither agree nor disagree (3) | Agree (4) | Strongly agree (5) |
|--|-----------------------|-----------------------|--------------------------------|-----------------------|-----------------------|
| I always find new and interesting aspects in my work (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| There are days when I feel tired before I arrive at work. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| It happens more and more often that I talk about my work in a negative way. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| After work, I tend to need more time than in the past in order to relax and feel better. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I can tolerate the pressure of my work very well. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Lately, I tend to think less at work and do my job almost mechanically. (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I find my work to be a positive challenge. (7) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| During my work, I often feel emotionally drained. (8) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Over time, one can become disconnected from this type of work. (9) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| After working, I have enough energy for my leisure activities. (10) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sometimes I feel sickened by my work tasks. (11) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| After my work, I usually feel worn out and weary. (12) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This is the only type of work that I can imagine myself doing (13) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Usually, I can manage the amount of my work well. (14) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I feel more and more engaged in my work. (15) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| When I work, I usually feel energized. (16) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q3 Please answer the following questions about how you have felt during the last month.

| | Never (1) | Almost never (2) | Sometimes (3) | Fairly often (4) | Very often (5) |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| How often have you felt that you were unable to control important things in your life? (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| How often have you felt confident about your ability to handle your personal problems? (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| How often have you felt that things were going your way? (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| How often have you felt difficulties were piling up so high that you could not overcome them? (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q4 Click to write the question text

| | Strongly disagree (1) | Disagree (2) | Neither agree nor disagree (3) | Agree (4) | Strongly agree (5) |
|---|-----------------------|-----------------------|--------------------------------|-----------------------|-----------------------|
| I tend to bounce back quickly after hard times. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I have a hard time making it through stressful events. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| It does not take me long to recover from a stressful event. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| It is hard for me to snap back when something bad happens. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I usually come through difficult times with little trouble. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I tend to take a long time to get over setbacks in my life. (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q5 For the following questions, please respond with how stressful you feel each of the following are:

| | Not at all stressful (1) | Mildly stressful (2) | Moderately stressful (3) | Very stressful (4) | Extremely stressful (5) |
|---|--------------------------|-----------------------|--------------------------|-----------------------|-------------------------|
| Shift work (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Working alone at night (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Overtime demands (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Risk of being injured on the job (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Work-related activities on days off (e.g., court, community events) (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Traumatic events (e.g., motor vehicle accident, domestics, death, injury) (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Managing your social life outside of work (7) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Not enough time available to spend with friends and family (8) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Paperwork (9) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Eating healthy at work (10) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Finding time to stay in good physical condition (11) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Fatigue (e.g., shift work, overtime) (12) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Occupation-related health issues (e.g., back pain) (13) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Lack of | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| understanding from family and friends about your work (14) | | | | | |
| Making friends outside the job (15) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Upholding a "higher image" in public (16) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Negative comments from the public (17) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Limitations to your social life (e.g., who your friends are, where you socialize) (18) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Feeling like you are always on the job (19) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Friends/family feel the effects of the stigma associated with your job (20) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q6 For the following questions, please respond with how stressful you feel each of the following are:

| | Not at all stressful (1) | Mildly stressful (2) | Moderately stressful (3) | Very stressful (4) | Extremely stressful (5) |
|---|--------------------------|-----------------------|--------------------------|-----------------------|-------------------------|
| Dealing with coworkers (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The feeling that different rules apply to different people (e.g., favoritism) (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Feeling like you always have to prove yourself to the organization (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Excessive administrative duties (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Constant changes in policy/legislation (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Staff shortages (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Bureaucratic red tape (7) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Too much computer work (8) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Lack of training on new equipment (9) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Perceived pressure to volunteer free time (10) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dealing with supervisors (11) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Inconsistent leadership style (12) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Lack of resources (13) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Unequal sharing of work responsibilities (14) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | | | | | |
|---|---|---|---|---|---|
| <p>If you are sick or injured your coworkers seem to look down on you (15)</p> | ○ | ○ | ○ | ○ | ○ |
| <p>Leaders overemphasize the negatives (e.g., supervisor evaluations, public complaints) (16)</p> | ○ | ○ | ○ | ○ | ○ |
| <p>Internal investigations (17)</p> | ○ | ○ | ○ | ○ | ○ |
| <p>Dealing with the court system (18)</p> | ○ | ○ | ○ | ○ | ○ |
| <p>The need to be accountable for doing your job (19)</p> | ○ | ○ | ○ | ○ | ○ |
| <p>Inadequate equipment (20)</p> | ○ | ○ | ○ | ○ | ○ |

Q7 The following questions focus on how you have been sleeping during the past 6 months. Please respond by selecting the appropriate response.

| | Not at all (1) | Rarely (2) | Sometimes (3) | Often (4) | All the time (5) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| How often have you had difficulty getting to sleep at night? (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| How often have you woken up during the night? (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| How often have you had nightmares or disturbing dreams? (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| How often has your sleep been peaceful and undisturbed? (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q8 How often did you have a drink containing alcohol in the past year?

- Never (1)
- Monthly or less (2)
- 2-4 times/month (3)
- 2-3 times/week (4)
- 4 times/week (5)

Q9 How many drinks containing alcohol did you have on a typical day when you were drinking in the past year?

- 1 or 2 (1)
- 3 or 4 (2)
- 5 or 6 (3)
- 7 to 9 (4)
- 10 or more (5)

Q10 We are interested in how people respond when they confront difficult or stressful events at work. There are lots of ways to try to deal with stress. Please indicate what you generally do and feel when work is stressful.

| | I haven't been doing this at all (1) | I rarely do this (2) | I sometimes do this (3) | I've been doing this a lot (4) |
|---|--------------------------------------|-----------------------|-------------------------|--------------------------------|
| I've been trying to come up with a strategy about what to do. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been thinking hard about what steps to take. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been concentrating my efforts on doing something about the situation I'm in. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been taking action to try to make the situation better. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been saying to myself "this isn't real." (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been refusing to believe that it has happened. (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been accepting the reality of the fact that it has happened. (7) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been learning to live with it. (8) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been trying to see it in a different light, to make it seem more positive. (9) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been looking for something good in what is happening. (10) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been using alcohol or other drugs to make myself feel better. (11) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been using | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| alcohol or other drugs to help me get through it. (12) | | | | |
| I've been getting emotional support from others. (13) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been getting comfort and understanding from someone. (14) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been trying to get advice or help from other people about what to do. (15) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been getting help and advice from other people. (16) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been making jokes about it. (17) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been making fun of the situation. (18) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been saying things to let my unpleasant feelings escape. (19) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I've been expressing my negative feelings. (20) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q11 Please respond to the following questions in regards to how you use your free time outside of work.

| | Strongly disagree (1) | Disagree (2) | Neither agree nor disagree (3) | Agree (4) | Strongly agree (5) |
|--|-----------------------|-----------------------|--------------------------------|-----------------------|-----------------------|
| I forget about work (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I don't think about work at all. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I distance myself from my work. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I get a break from the demands of work. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I kick back and relax. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I do relaxing things (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I use the time to relax (7) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I take time for leisure (8) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I learn new things (9) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I seek out intellectual challenges (10) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I do things that challenge me (11) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I do something to broaden my horizons (12) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I feel like I can decide for myself what to do (13) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I decide my own schedule (14) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I determine for myself how I will spend my time (15) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| I take care of things the way that I want them done (16) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|

Q12 Gender

- Male (1)
- Female (2)

Q13 Age

- 18-29 (1)
- 30-49 (2)
- 50-64 (3)
- 65+ (4)
- Decline to answer (5)

Q14 Highest level of education

- High school grad or less (1)
- Some college (2)
- College grad (3)
- Graduate school (4)
- Decline to answer (5)

Q15 Race/ethnicity

- White, not Hispanic (1)
- Black, not Hispanic (2)
- Hispanic (3)
- Asian/Pacific islander (4)
- Other (5)
- Decline to answer (6)

Q16 Employment status

- Sworn-in law enforcement officer (1)
- CSI (2)
- 911 Emergency operator (3)
- Administrative (4)
- Decline to answer (5)

