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Utility of stress in occupational and life decisions of correctional officers

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Utility of stress in occupational and life decisions of correctional officers

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The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this thesis. The Graduate College will ensure this thesis is globally accessible and will not permit alterations after a degree is conferred.

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ABSTRACT

Little attention has been devoted to the significant amount of stress under which jailer or referred to in this document correctional officer's work. A limited number of studies address stress in correctional; moreover, a literature review failed to identify the relationship between stress in correctional officers and career-related decisions. The purpose of the study was to identify relationships between perceived life and occupational stress and the utility of stress in career-related decision making. A stress questionnaire that included life and work-related stress instruments along with a simulation of career decision tasks was distributed to frontline county correctional officers within the state of Iowa. Results indicated life and occupational stress did not play a significant role in decision making for correctional officers who completed the decision-making task. Similarly, the utility of stress was not significantly different from that of other decision dimensions.

A focus group questionnaire was developed to augment the results from the study. This focus group session will help delve into the relationships between stress and decision making in future research.

CHAPTER 1. INTRODUCTION

Research has indicated that correctional officers are being exposed to high levels of stress (Dowden & Tellier, Predictiong work-related stress in correctional officers: A meta-analysis, 2004). Constant exposure to elevated stress levels has been associated with physical changes such as increased blood pressure, hypertension, diabetes, and elevated cortisol levels; all contributing factors to cardiovascular disease (CVD) (Kearns, 2013). Psychologically, stress exposure can manifest itself as burnout, anxiety, depression, and potentially, an increased use of drugs and alcohol (Kearns, 2013).

Past research has primarily focused on identifying specific occupational stressors faced by correctional officers. While occupational stress is important, it is not the only type of stress individual's face. Stress experienced by working individuals can be subdivided into two primary categories: life stress and occupational stress. Life stress results from a major life event which forces a person to deal with substantial changes in their daily life and requires adjustments or behavioral adaptation (Cassidy, 1999). Occupational stress is the physiological, psychological, or social strain people may experience when presented with work demands and pressures that do not match their knowledge and abilities, and which challenge their ability to cope (Semmer, 2007). While it can be argued that these two forms of stress overlap in everyday life, envisioning these two variables as a single parameter reduces the ability to identify which factors contribute to the negative outcomes listed above.

'Utility' is the internal or intrinsic perceived value of each choice in a decision task (Trueman, Quantitative methods for decision making in buisness, 1981). Utility theory posits decisions are made on the basis of the utility maximization principle; the best choice is the one that provides the highest utility (or satisfaction) to the decision maker. This

maximization comes in the form of gaining something positive, avoiding something negative, or both (Monigin, 1997). The utility of an outcome is subjective based on the individual and environmental factors present at the time of the decision. Part of this subjectivity to utility is the psychological habituation of the individual to the outcome of the decisions. When individuals are continuously exposed to stressful situations without negative outcomes, the utility of avoiding these situations decreases. While the psychological utility of avoiding these stressful situations may be reduced, the negative physiological effects may still be present without individuals being consciously aware. This combination of psychological habituation and lack of awareness may lead to an increase in exposure to stressful situations, and therefore an increase in suffering the consequences associated with these stress levels. Current, research has failed to identify how level of stress have affected the utility of stress avoidance in county correctional officers.

This research used a series of online surveys and questionnaires to examine the effect of reported levels of life and occupational stress on the utility of stress (or stress avoidance) in county correctional officers when making career-related decisions. Statistical analysis indicated no significant correlation between level of stress and search indices during a career-related decision-making task. Linear regression analysis indicated the levels of life and occupational stress have no significant effect on the utility of stress, or stress avoidance, when making a career-related decision. In addition, when making a career-related decision, a significant difference was found between the variable of pay and all other search variables, including stress. Significant differences were also noted between job security and promotion, as well as between job security and commute time. Further research could provide insight into how specific life and work stressors affect decision making.

CHAPTER 2. LITERATURE REVIEW

Population of County Jails

At the end of 2012, 6.9 million (or one out of every 35) U.S citizens were under some form of correctional supervision: parole, probation, or held in a federal or state correctional facility (Glaze, 2013). Despite this large number, 6.9 million marks a reduction of about 51,000 from the previous year making 2012 the fourth year the supervised population decreased (Glaze, 2013). Although there has been a consistent decrease in the supervised population, the overall jail or prison population has steadily increased. This population rose from 621,100 in 2011 to 744,500 in 2012, marking a 1.2% increase in the local jail population and a 1.0% increase in the federal prison population (Glaze, 2013).

The state of Iowa has not been immune to the increasing trend in individuals under correctional supervision. In 2014, Iowa reported 30,833 individuals under community-based correctional supervision, with an additional 8,190 inmates in one of nine state-run prisons (Iowa Department of Corrections, 2014). These facilities are designed to house an average of 7,428 prisoners, but are averaging 8,190 prisoners on a daily basis, resulting in a 10% overcrowding situation (Iowa Department of Corrections, 2014). Overcrowding creates additional strain and stress on inmates and jail resources, and puts extra physical and emotional demands on those caring for the inmates: the correctional officers.

Job Duties Associated with Being a Correctional Officer

Correctional officers are the primary employees in direct contact with inmates daily. Each correctional officer works a standard eight-hour shift, five days a week. To maintain the necessary surveillance, correctional officer positions are staffed 24/7 365 days a week. To

ensure officers are maintaining a fair number of weekends, nights, and holidays, facilities often operate on rotating schedules. Rotating schedules are defined as shift work that periodically changes from days to evenings or nights (Beers, 2014). These rotating schedules oblige correctional officers to work at varying times of day, depending on the rotation, and can create additional stress by disrupting circadian rhythms. This can result in conflict with family and with social schedules. In addition, many individuals see rotating schedules negatively; this variable alone discourages people from applying for correctional jobs, reduces employee retention, and creates an overall deficit of qualified employees at correctional facilities. Because of this shortage, if an employee calls in or fails to show up for a shift, other employees are asked to fill in, often on short notice (Bureau of Labor Statistics, 2014-15).

The job duties required of correctional officers within an eight-hour time slot can range from merely conducting head counts to using physical force to break up a fight among inmates (O*NET OnLine, 2010). The consistency with which these duties and tasks are required to be performed is often very fluid. Daily dynamics change based on the inmates in each facility, overcrowding situations, relationships between guards and inmates, or with each other, and often just the daily moods of the inmates toward each other.

Regardless of whether they work in state-run or county-run facilities, correctional officers' standard job duties put them in constant, direct contact with inmates, and often in harm's way. Thus, correctional officers have one of the highest rates of occupational injury and illness in the country (Bureau of Labor Statistics, 2014-15). Between 1992 and 2002, approximately 101 correctional officers were killed in the line of duty resulting in a fatality rate of 3.0, or three deaths per every 100,000 workers. Of the 101 fatalities, 29 were homicides, mostly committed by inmates (Tiesman, 2010). The fear of being killed is often exacerbated by

the number of injuries incurred on the job. Between 1999 and 2008, there were approximately 125,200 nonfatal work-related injuries among correctional officers resulting in an injury rate of 3.0 per 100 full time employees. The highest rate of these injuries, 37%, resulting from inmate assaults or violence directed at correctional officers (Konda, Tiesman, & Hartley, 2013).

Types of Stress

Correctional officers who face these dangers daily often experience significant stress. Colman (2001) defined stress as "psychological or physical strain or tension generated by events or experiences that are difficult to manage or endure". Stress can be divided into two types: physical and psychological. Physiological stress is "any response to any demand made on the body" (Selye, 1974, pg 1). This form of stress often manifests itself in physiological responses such as change in heart rate, blood pressure, and autonomic nervous system activation. One of the most common definitions of psychological stress is "any threat to self-esteem or safety" (Larkin, 2005). This broad definition covers many aspects of both home and work life. Prolonged exposure to this form of psychological stress can manifest itself as depression, anxiety, and most common among correctional officers, burn out.

Stress is not always a response to an event. Both physiological and psychological stress can be generated in anticipation of an event or stressor (Cassidy, 1999). This anticipation is an inherent part of a correctional officer's job. Part of a correctional officer's daily job is anticipating what could go wrong and trying to mitigate the risk of something going wrong, thereby putting them in a state of stress before they even reach the inmates. They remain in this heightened state of awareness throughout their entire shift.

Most stress experienced by individuals comes in the form of life stress or occupational stress. While it is often argued that the very nature of our lives makes differentiating these

stresses impossible, they each have distinct properties that produce different effects, which can be looked at separately.

Life Stress

Our society prescribes a variety of proper forms of behavior with a variety of appropriate relationships between its members (Hinkle Jr., 1987). However, depending on the relationship between members, and the circumstances surrounding the interaction, multiple behaviors may be deemed appropriate.

A change in behavior is often not enough to cause significant stress. The extent of a life stressor's impact is usually dependent on the attitude or mentality of the individual. For example, if a person has a negative attitude and has a disagreement with their spouse, they may deem it a "major" fight. A person with a positive attitude may perceive that same dispute as nothing to worry about, and therefore experience very little stress regarding the subject matter (Simons, Angell, Monroe, & Thase, 1993). Dysfunctional attitudes may cause subtle changes in behavior creating life circumstances in which adverse life events are more likely to happen (Simons, Angell, Monroe, & Thase, 1993). This, in turn, creates additional stress, which increases negative attitude and incremental changes in behavior, generating a cycle of stress.

Cognitive factors also play a part in attitude which may affect an individual's severity rating of a stressor. For example, if work performance is a critical dimension for an individual, they may rate work stress as more severe than those who are not appraising performance highly (Simons, Angell, Monroe, & Thase, 1993).

Occupational Stress

Cartwright and Cooper define occupational stress as excessive pressure caused by fundamental change, lack of control and high workload within one's occupation (Cartwright & Cooper, 1997) Scant attention has been given to measuring the presence of stress among correctional officers despite high rates of stress-related illnesses in the population (Huckabee, 1992). Research has shown these illnesses to be prevalent in occupations not dealing with criminals as well. The question then, is whether stress levels continuously experienced by correctional officers affects their overall health and well-being.

This question is often answered by assessing the rate of stress-related illness such as hypertension, ulcers, heart disease, and burn out in the population. The average rate of these illnesses is unusually high in correctional officers (Dowden & Tellier, 2004), yet research has consistently shown that correctional officers do not report feeling high levels of stress in their jobs. Research has also shown that correctional officers are not willing to report stress-related issues such as a divorce, family issues, or drug and alcohol use experienced by fellow officers (Cheek & Miller Di Stefano, 1983). Possible explanations for this behavior include a lack of willingness on the part of correctional officers to report feeling stressed or a lack self-awareness to realize they are experiencing high levels of stress.

While research has indicated that correctional officers are not reporting higher levels of stress, increased stress levels have been documented among many new hires working with inmates. Studies of Israeli prison systems indicated that occupational tedium, emotional exhaustion, and negative attitudes toward self and others were so widespread that 50 percent of the officers left their job within the first 18 months of employment (Dowden & Tellier, 2004). Stress seems to serve as a screening process; those who cannot handle the stress after an initial

adjustment period often leave, while those who stay are able cope with the daily stress and are not plagued by debilitating levels of stress (Huckabee, 1992).

Burn out is another variable associated with, and well documented among, correctional officers. Burn out has been defined as a psychological syndrome that is comprised of 1) emotional exhaustion, 2) depersonalization, and 3) reduced personal accomplishments (Gould, Wastson, Price, & Valliant, 2013). It is often associated with overexposure to stress. Research performed by Finney et al. indicates 37% of correctional officers surveyed reported experiencing job burnout compared to 19-30% of the general working population (Finney, Stergiopoulos, Hensel, Bonato, & Dewa, 2013). A similar study done by Gould found, of the surveyed correctional officers in Alabama, 33% reported experiencing burnout. Furthermore, 68% reported their jobs as moderately stressful. In Kentucky, over half of the correctional officers reported a feeling of emotional exhaustion (Gould, Wastson, Price, & Valliant, 2013). Research using the Maslach Burnout Inventory-Human Services Survey (MBI-HSS), which focuses on the three components of stress (i.e., emotional exhaustion, depersonalization, and personal accomplishment), showed that correctional officers rated emotional exhaustion at 33.5(28 is considered high) and depersonalization as 19.0 (11 is deemed high), further supporting the existence of high stress levels in correctional officers (Gould, Wastson, Price, & Valliant, 2013).

Stressors

A meta-analysis of past research indicates there are eight primary stressors associated with being a correctional officer: 1) the daily physical demands of the job, such as sitting for long periods; 2) lifting; 3) the intrinsic properties of the position including safety, complexity, and repetitiveness; 4) role characteristics which include role conflict, role ambiguity, and role overload; 5) interpersonal relationships on the job; 6) lack of resources and equipment; 7) work

schedules; and 8) the organizational climate (Triplett, Mullings, & Scarborough, 1996). Additionally, administrative policies and procedures have been reported to have significant impact on the stress of correctional officers; more so than safety concerns and interactions with inmates (Triplett, Mullings, & Scarborough, 1996).

In addition to these environmental factors, stress itself has been found to create a conflict between professional and non-professional staff members (Triplett 1996). Conflict among staff members, in turn, creates more stress and conflict resulting in a loop of constant stress exposure. This exposure circle to stress not only compounds the problem but creates a sense of normalcy to an unhealthy high-risk work environment.

Health Concerns Associated with High Stress Levels

The human body's primary system at highest risk for damage due to excessive stress exposure (life or occupational stress) is the cardiovascular system. Cardiovascular disease (CVD), or heart disease, is one of the leading causes of death in the United States. Deaths caused by CVD account for one out of every four deaths (Center for Disease Control and Prevention, 2012) or over 600,000 deaths annually (Center for Disease Control and Prevention, 2014). These deaths include heart attacks, strokes, and heart arrhythmia (American Heart Association, 2011). Many conditions can contribute to cardiovascular disease; among them are high cholesterol, high blood pressure, and diabetes. Chronic stress often contributes to unhealthy lifestyle choices such as smoking and may result in obesity and inactivity (National Center for Chronic Disease Prevention and Health Promotion, 2013). Many of the lifestyle choices that contribute to cardiovascular disease are not choices but a function of the daily job characteristics of correctional officers.

Research done by Boman (1988) showed that cholesterol serum levels fluctuated in Accountants in relation to the amount of work stress each reported (p. 307). Another survey of 12,000 men in 14 different occupations showed that cardiovascular risk was strikingly correlated with the relative stressfulness of their professional activity, independent of diet or heredity (Russek, 1965). Additional research by Saab & Schneiderman (2002) showed that being employed in high strain occupations may be associated with persistently elevated high blood pressure (pg. 50). These studies have highlighted the importance of stress identification and management.

Acceptance or Utility of Stress

The routine job functions of a correctional officer are associated with high stress levels, and high levels of stress are associated with negative health consequences. The question then is, why do individuals decide to become correctional officers, and why do so many stay within the profession? Huckabee (1992) suggested that correctional officers are either not stressed or are not reporting their stress. It is posited that the lack of reporting stress may stem from correctional officers' willingness to accept high levels of stress as part of the job (Huckabee, 1992).

A method of determining correctional officers' levels of stress acceptance for their job is measuring its utility. The utility is the subjective numerical measure of the value of a particular outcome to a decision maker (Trueman, Quantitative methods for decision making in business, 1981). Essentially, the higher the utility, the more value the person has for that variable.

According to the Expected Utility Theory of decision making, a decision maker chooses actions or strategies that maximize utility. "Utility of an object tends to produce benefit, advantage, pleasure, good or happiness" (Bentham, 1968; pg. 3.). This pleasure or happiness often means that individuals will choose a decision with high utility. The level of utility each decision brings varies from individual to individual, depending on environmental factors

associated with that decision (Trueman, 1981). Utility also varies from situation to situation; a decision that produces high utility in one case may create very low utility in another. Expected Utility Theory states that the decision maker chooses between risky or uncertain prospects by comparing their expected utility values, (Mongin, 1997). The Expected Utility Theory then serve as a framework by which stress causes a bias toward stress as a decision dimension in the search for a job.

Process of Decision Making

In this context, decision making is defined as humans' ability to choose between competing courses of action based on the relative utility of the outcome (Starcke & Brand, 2012). The process of decision making can be divided into two categories: 1) dynamic decision making, and 2) administrative decision making. Dynamic decision making is the process of making multiple interrelated decisions in a continuously changing environment (Klein, 1997). There are four primary characteristics of dynamic decision making: 1) it requires a series of decisions, 2) the decisions implemented are not independent of each other, 3) the state of the environment is changing both autonomously and as a consequence of the decision, and 4) time is an essential factor (Brehmer, 2000). Administrative decision making is the process used by a single individual or small group to make key or strategic decisions (Power, 2015). The decision process is well thought out and focuses on moving a goal or objective forward (Brehmer, 2000). Although administrative decisions are made in a stable environment, the utility of the variables and outcomes is still fluid; what one highly value in one situation may change under different circumstances.

Past research regarding decision making assumed decisions were made one way; through logical, reasonable means that maximized the utility of the outcome. Current research has shown there are multiple ways individuals make decisions. These have been grouped into five primary

types of decision making: combination, intuitive, satisficing, recognition-primed decision (RPD), and rational.

Intuitive decision making is an action-oriented form of decision making. It is based on the belief that if you take some form of action, regardless of the circumstances or outcome, the proper thinking will fall into place. The steps associated with this type of decision making are enactment, selection, and retention. These steps allow an individual to determine what works for them, remove what does not and is often associated with novel situations. This process focuses on simple relationship rules that will help move the process forward (Mintzberg & Westley, 2010).

Saticficing decisions are not optimal in outcome or in process and do not require the decision maker to go through all the steps needed to make an adequate decision. A satisficing decision is one made to meet the minimum requirements necessary to move the process/project forward (Boal & Meckler, 2010). These decisions are often made in situations so large and complex that the decision maker experiences overload. These decisions do not maximize in accordance with rationality assumption; they simply satisfy. The decision maker conducts a limited search among alternatives, considers the decision as well as they can within the constraints imposed by their situation, and chooses the most satisfactory (Rainey, C., & Avellaneda, 2010).

Recognition Primed Decision making (RPD) was developed by Gary Klein, Roberta Calderwood, and Anne Clinton Cirocco in the 1980s while working with military commanders. This process focuses on how people use their experience to form repertoire and patterns of decision making (Klein, 2008). According to RPD, decision makers (usually considered experts) recognize a plausible course of action. When decisions need to be made, a decision maker will

look for patterns, match those patterns with previous experience, and if a clear match is made, the decision maker will carry out the most typical course of action based on decisions made in previous experiences (Klein, 2008). This course of action is often played out in the decision maker's head to determine whether the solution is viable and to anticipate any future problems. With RPD, options are not compared and are rooted more in Herbert and Simons' satisficing notion than in rational decision making (Klein, 2008).

Rational decision making was first introduced by Pascal Wager in 1658. This theory assumes that individuals act rationally; meaning they act in accordance with a systemic set of preferences (Green, 1978). These preferences are designed to maximize the expected utility of each decision discussed previously in the section of this document titled, *Acceptance of Utility of Stress*.

A subset of rational decision-making strategy is known as the Elimination-by-Aspect (EBA) model (Tversky, 1972). EBA suggests that decision makers should start with the dimension they consider most important (has the highest utility), examine the values of all alternatives across that dimension, and eliminate the alternatives that fall below a minimum value for that dimension. The decision maker may continue this process until only one option remains, as in the classic EBA model. Or, after eliminating the weakest alternatives on one or two critical dimensions, the decision maker may proceed to more carefully compare the remaining alternatives across several dimensions.

As with EBA, the lexicographic strategy (Payne, Coupey, & Johnson, 1992) also suggests decision makers will begin with the most important dimension. However, a decision maker using the lexicographic strategy will choose the alternative based on this dimension, rather than eliminating the alternative with the worst value of that dimension.

Combination decision making is the ability to combine two or more different decision-making techniques to solve a problem. This method has been shown to outperform most single methods. The methods used often depend on the individual as well as the environment in which the decision is being made (Chao, Jun, & Hua, 2006). This process is also very fluid and dynamic, as the environment and decision-making method change, so too does the utility of different variables.

Process Tracing

One method used by researchers to understand the decision-making process is a system called process tracing. Process tracing is the "systematic examination of diagnostic evidence selected and analyzed in light of research questions and hypotheses posed by the investigator" (Collier, 2011). It focuses on complex systems and attempts to identify the intervening causal processes, the causal chain, and causal mechanisms between an independent variable(s) and the dependent variable (Beach & Pedersen, 2016, p. 2). This method pays particularly close attention to the sequence of independent, dependent, and intervening variables (Collier, 2011). The critical difference between process tracing and other techniques is that this method focuses on the actual process of making the decision rather than the final decision itself. There are three primary methods used to gather data within the process tracing framework: verbal protocol, information boards, and eye movement (Ford, 1989).

Verbal protocol consists of well-structured self-reports and loosely structured verbal reports (Kuhberger, Schulte-Mecklenbeck, & Raynard, 2011). Self-reports involve the decision maker reporting what they have done, will or would do, and how they feel at any given time (Kuhberger, Schulte-Mecklenbeck, & Raynard, 2011). While this allows for the advantage of standardized questions, this method is often criticized for the use of different scales.

Loose verbal reports, on the other hand, do not follow any structural format and lack a rating scale administered by the decision maker. These statements merely require the decision maker to think out loud while being actively involved in the decision-making process (Ford, 1989). Information is recorded by a trained observer, coded, and analyzed at a later date. Loose verbal reports are commonly used to analyze dynamic situations such as those frequently encountered by firefighters, EMTs, emergency room doctors, and police officers. While this technique is often praised for capturing information as it is happening, it is frequently criticized for a lack of standardization regarding the methods used to gather, code, and analyze data (Ford, 1989).

Information boards were pioneered by Payne in the 1970s (Ford, 1989). Due to new technology, information boards have not only gained wider acceptance, but have expanded to include additional variables such as a time factor (Kuhberger, Schulte-Mecklenbeck, & Raynard, 2011). This technique requires participants to explicitly search for information about available alternatives and usually to choose one of the possible alternatives. This method focuses on decision maker's depth and pattern of search, and not necessarily the final decision itself (Ford, 1989). Despite having gained broader acceptance, this technique is often criticized for relying exclusively on written information and requiring some form of pre-construction of the information (Kuhberger, Schulte-Mecklenbeck, & Raynard, 2011). These studies can be supplemented with verbal reports and eye movement data. The combination of information is used to infer the nature of decision making and to test theoretical models (Patrick, 2004).

There are two types of processing within they eye movement category: saccades, or rapid voluntary movements and non-saccades. Saccades is characterized by the eyes moving in widely different amplitude from one object to another (Russo, 2011), and non-saccades movement

which occurs when the eyes jointly focus on a single point or object of regard (Russo, 2011). When analyzing rapid voluntary eye movements, fixations, tempo amplitude, duration, and latency of saccadic movements are tracked to determine what an individual visually fixates on (Kuhberger, Schulte-Mecklenbeck, & Raynard, 2011). While eye movements can detect what a person looks at, they cannot be used to determine the extent of information processed, or how information is processed (Patrick, 2004). Eye movement analyses provide the most benefit when combined with other data (Patrick, 2004).

Overarching Research Question

According to Expected Utility Theory, the negative health effects associated with high levels of stress should cause individuals to be averse to high stress jobs. Further, for individuals already working in high stress jobs, they should find high utility in finding a new job with low stress. Current literature review failed to identify research that addresses the relationship between perceived life stress, occupational stress, and the utility of stress in relevant decision making. This work used information boards to analyze the following question:

Does one's level of occupational and life stress predict orientation towards stress as a decision dimension when correctional officers engage in career-related decisions?

Consequently, the following three hypotheses were tested:

H1: Levels of occupational and life stress are not correlated with information acquisition on the decision dimensions in a career related decision task.

H2: The stress dimension search index is not significantly different than other decision dimension indices.

H3: Levels of occupational and life stress fail to predict the utility of stress in a career related decision task.

CHAPTER 3. METHODS

Using the Iowa State University (ISU) Qualtrics system, data was collected on life and occupational stress, health status, and general demographic information. The data were then supplemented with the results of a decision-making simulation that was facilitated with Decision Mind software. Both decision process and choice were examined. The following sections describe the instruments used and data collection processes. This study was approved and supported by the ISU Institutional Review Board (Appendix A).

Participants

Participants were frontline correctional officers employed at county correctional facilities located throughout the state of Iowa. Due to differences in job duties, contact with inmates and the effects of administrative policies on job function, only frontline officers were asked to participate in this study.

Informed Consent

Each participant was asked to complete an electronic Informed Consent form (Appendix B). This form provided a brief explanation of the research, ensured participants that their participation would be kept confidential and there would be no negative consequences for their participation. If a participant chose not to continue with the research, they were thanked for their time and allowed to exit the survey. If a participant chose to continue, they were taken to the beginning of the surveys.

Life Stress

The Perceived Stress Scale (McCreary & Thompson, 2006) consists of 14 items describing general life events. Participants are asked to rate how often they have felt what is

described in each item in the last six months; scores range from 0 (never) to 7 (often). Items 4, 5, 6, 7,9, and 10 are positively stated and are reversed coded (0=7, 1=6, 2=5, 3=4). The values for each of the 14 items were summed together for a total life stress score; the higher the score, the higher the level of stress (Appendix C).

Occupational Stress

Occupational stress was divided into two primary categories: organizational and operational stress. Organizational stressors are related to the values and norms associated with the organization. To measure stress related to organizational norms, the Organizational Stress Survey was used. This survey consists of 20 questions related to various aspects of the organization; participants are asked to rate the amount of stress caused by each variable in the last six months. A seven-point Likert scale, where one represents 'no stress at all' and seven represents 'a lot of stresses' was used (see Appendix D). Values for each item were summed to compose a total organizational stress score.

Operational stress is related to the various daily work demands of a job. In this study, the Operational Stress Survey, a 20-question survey developed by McCreary and Thompson, was used to measure operational stress (McCreary & Thompson, 2006). Using this survey, correctional officers were asked to rate the amount of stress felt in the last six months in regard to the daily duties associated with their job. Each question is rated on a seven-point Likert scale as described above. The values for each item were added together for a total Operational Stress Score; the higher the score, the higher the stress level (Appendix E).

General Health

A General Health Survey (Center for Disease Control and Prevention, 2000) and provided by Dr. Warren Franke of the ISU Department of Kinesiology was used to gather basic information regarding health concerns associated with high levels of stress, this questionnaire was combined with the Sleep Survey (Buysse DJ, 2008; 4) to form the Health Questionnaire (Appendix F).

Job Information

The Job Information Questionnaire was used to gather information on variables associated with each participant's employment status and primary duties as a frontline correctional officer. These variables include rank, shift hours, shift rotation, tenure, as well as responsibilities performed during a standard shift. This information was then used as explanatory values for determining which occupational variables are associated with different levels of each type of stress, overall occupational stress, and the utility of stress (Appendix G).

Demographic Survey

A Demographic Survey was administered to gather personal information not directly related to the work environment (Appendix H). This information included items such as age, ethnicity, and marital status. This information was then used as explanatory variables for overall levels of life stress and utility of stress. Also, this information provided valuable information about the population who participated in this research, allowing us to identify areas for future research.

Utility of Stress

The utility of stress is measured through decision process tracing techniques. Process tracing is used to track information acquisition in decision-making process to make inferences

about the decision strategies employed en-route to the final decision (Payne et al., 1993; Keren et al., 2009). The information acquisition is relayed in the form of Dimensions Search Indices (DSI). The value of each DSI is the ratio between the amount of information reviewed on this dimension and the average amount of information reviewed on all other dimensions. This number provides the utility value for each dimension; the higher the DSI score, the higher the utility that dimension had in the overall final decision.

The Platform

Decision Mind (DM) software was used to facilitate decision-making simulation and process tracing was used to determine the various DSI scores. Special emphasis was put on the Stress Search Index (SSI). The DM software presented the subject with a decision task description followed by a five by five decision matrix in the form of an information board. The decision description presented the following scenario (to help with clarity, decision dimensions are related to as decision factors in the description):

> *Due to certain circumstances, you cannot continue working as a correctional officer. A headhunter identified five potential jobs for you (labeled A-E). The headhunter organized information on these jobs in a table format but did not include the job titles themselves. He indicated that the jobs comply with what you described as types of work you will enjoy. The headhunter collected information on the following factors: commute time, benefits, stress, job security, and opportunities for promotion; all decision factors you indicated were important to you during the interview. To review the information on a certain factor for a certain job, press on the 'Click' link on the intersection between the job and the factor. Upon clicking, a window with the information was presented. The information in the window is descriptive and also included a numeric value that ranges*

from (-10) to (+10), providing a numerical sense of the quality of the job pertaining the specific factor. A low value (-8 for example) indicates that the specific job is evaluated strongly negative on the factor. Consequently, a value of (+9) indicates a strong positive evaluation on the factor, and a value of zero provides that the job is evaluated neither positive nor negative concerning the specific factor. Please review the information on the job until you feel that you are ready to decide on your preferred job. Then click the radio button in the lowest row, below the job you choose.

The headhunter forgot to ask you for the relative importance each one of the factors plays in your decision. He, therefore, asked that you indicate how important each factor was to your decision. To do so, please enter a value between 0 and 10 for each factor the column on the right. A value of 0 indicates the factor played no role in your decision, while 10 indicates the factor carried utmost importance in your considerations.

The various job alternatives (labeled A to E) are presented at the top row of the matrix, and the associated decision dimensions are provided in the left column. These dimensions include Salary/benefits, Commute time, Promotions, Job security, and Stress levels (Appendix H).

Participants' time in making a decision was not limited. As described in the scenario, participants were asked to rank each variable on a scale of 0 to 10 indicating the level of importance each factor had in the final decision. A value of zero indicates the variable played no role in the final decision, and a value of 10 indicates the variable was extremely important to the final decision.

As the participant looked at each box the Decision Mind software tagged each box with a number indicating the order in which boxes were viewed. This information was then used to

calculate the Search Indices (SI) number. The SI numbers in conjunction with the number of dimensions vs. alternative moves within the matrix were used to determine which pattern of decision making was employed by the participant. An alternative (A) decision is a move in the up or down direction from the current decision box; you are moving to an alternative variable within the same job position (e.g., you are looking at pay for job A, and then you move over to job satisfaction for job A). A dimension (D) decision is a move to the right or left of the current box; you are looking at the same variable such as pay but for a different job (e.g., you are looking at pay for job A, and then move to the right to look at pay for job B). Moves made diagonally are not measured.

All surveys were entered into the ISU Qualtrics system in the following order: Informed Consent, Life Stress (PSS Scale), Operational Stress, Organizational Stress, Health Questionnaire, Job Information Survey, and Demographic Survey. This list of surveys was entered five separate times; each list received one of the five web addresses to the Decision Mind task attached to the bottom. Opening this link provided participants with instructions (see Appendix I) on how to log into the Decision Mind software and took them to their assigned Decision Task. The order in which these surveys were administered was randomized within the Qualtrics system.

CHAPTER 4. ANALYSES

Life and occupational stress were calculated as described. The SI scores for each variable were calculated according to equations 1-to- 5 where Eq. (1) is the SI for the dimension of stress, Eq. (2) is the SI for the dimension of benefits, Eq. (3) is the SI for commute, Eq. (4) is the SI for job security, and Eq. (5) is the SI for advancement opportunities:

Eq. (1) $SI\_stress = \frac{N_{Stress}}{\frac{1}{n}\sum_{i=1}^{n} N_{i \neq stress}}$

Where,

N_{Stress} is the number of times information on the stress dimension have been reviewed

N is the number of alternatives

Eq. (2) $SI\_benefits = \frac{N_{benefits}}{\frac{1}{n}\sum_{i=1}^{n} N_{i \neq benefits}}$

Where,

$N_{benefits}$ is the number of times information on the benefits dimension have been reviewed

Eq. (3) $SI\_commute = \frac{N_{commute}}{\frac{1}{n}\sum_{i=1}^{n} N_{Commute}}$

Where,

$N_{commute}$ is the number of times information on the commute dimension have been reviewed

Eq. (4) $SI\_security = \frac{N_{security}}{\frac{1}{n}\sum_{i=1}^{n} N_{i \neq security}}$

Where,

$N_{security}$ is the number of times information on the job security dimension have been reviewed

Eq. (5) $$SI\_advancemnt = \frac{N_{advancement}}{\frac{1}{n}\sum_{i=1}^{n} N_{i \neq advancement}}$$

Where,

$N_{advancement}$ is the number of times information on the advancement opportunities dimension has been reviewed.

Statistical Documentation

Multiple regression was employed to test whether life and occupational stress scores are positively correlated with orientation toward stress during the information acquisition process (Hypothesis 1). Analysis of variance, followed by Tukey's post hoc test, was used to examine differences among the dimensions in the decision task (Hypothesis 2). Similarly, a series of simple linear regressions was used to test whether life and occupational stress scores predict the propensity toward assessing stress in a career-based decision-making scenario (Hypothesis 3).

CHAPTER 5. RESULTS

All 99 counties within the state of Iowa were given the opportunity to participate in this research. Responses were received from 31 of the 99 (31%) counties (Table 1). At the time of this research, 907 correctional officers were employed within the state of Iowa, and 120 (43%) chose to participate in this study. Participants included 46 females, 65 males, and 10 participants did not provide their gender. Of the individuals who participated, 117 identified themselves as Caucasian, one identified as African American, one as Latino, and one did not respond. Participants' ages ranged from 20 to 66 years old (Figure 1.) with an average age of 37 years, and an average tenure of 9.8 years (Figure 2.).

Due to a computer glitch, 45 of the 120 participants were unable to complete the Life Stress Survey resulting in a total of 75 who completed all questionnaires and surveys. Of those 75 participants, 52 went on to complete the decision-making task.

A summary of the results for Life Stress (Table 5.), Organizational Stress (Table 6.) and Operational Stress (Table 7.) are provided.

Table 1.
Number of participants by county

County	Number of Participants
Appanoose	2
Blackhawk	1
Bremer	2
Buchanan	1
Buena Vista	7
Butler	1
Cerro Gordo	11
Clay	1
Clinton	3
Dallas	1

Table 1. Continued

Decatur	1
Des Moines	2
Dubuque	2
Hamilton	1
Hancock	1
Hardin	3
Jackson	1
Jasper	6
Johnson	4
Linn	4
Marion	2
Marshall	2
Osceola	1
Page	1
Palo Alto	3
Pott	1
Ringgold	1
Sac	1
Shelby	2
Story	25
Woodbury	16

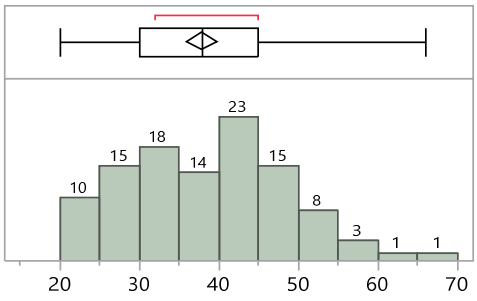

Figure 1 Age distribution for participating correctional officers

Table 2.

Quantiles for age distribution of correctional officers

100.0%	maximum	66
99.5%		66
97.5%		58.55
90.0%		51

Table 2. Continued

75.0%	quartile	45
50.0%	median	38
25.0%	quartile	30
10.0%		24.9
2.5%		22
0.5%		20
0.0%	minimum	20

Table 3.

Summary statistics for age of correctional officers

Mean	37.898148
Std Dev	9.8026697
Std Err Mean	0.9432623
Upper 95% Mean	39.768056
Lower 95% Mean	36.028241
N	108

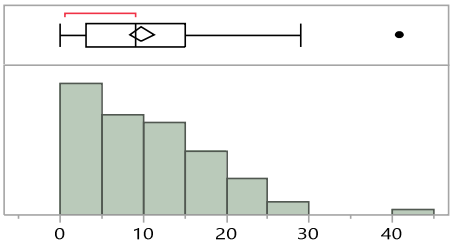

Figure 2. Tenure distribution for participating correctional officers

Table 4.

Quantiles for Tenure distribution

100.0%	maximum	41
99.5%		41
97.5%		28.225
90.0%		20
75.0%	quartile	15
50.0%	median	9
25.0%	quartile	3
10.0%		0.766
2.5%		0.4235
0.5%		0
0.0%	minimum	0

Table 5.

Summary statistics for age distribution

Mean	9.8407273
Std Dev	7.6529901
Std Err Mean	0.729684
Upper 95% Mean	11.286937
Lower 95% Mean	8.3945173
N	110

Table 6.

Number of participants who answered for each Life Stress Question

	1	2	3	4	5	6	7
1. In the last month, how often have you been upset because of something that happened unexpectedly?	4	21	21	13	6	4	7
2. In the last month, how often have you felt that you were unable to control the important things in your life?	14	22	15	11	9	2	3
3. In the last month, how often have you felt nervous and stressed?	3	8	21	17	8	8	10
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	1	6	2	13	17	3	34
5. In the last month, how often have you felt that things were going your way?	1	3	9	20	20	21	11
6. In the last month, how often have you found you could not cope with all the things that you had to do?	27	21	8	6	9	4	0
7. In the last month, how often have you been able to control irritation s in your life?	1	5	9	17	16	7	17
8. In the last month, how often have you felt that you were on top of things?	0	8	6	18	16	11	15
9. In the last month, how often have you been angered because of things that happened that were outside of your control?	5	19	19	13	4	10	4

Table 7.

Number of participants who answered for Organizational Stress

	1	2	3	4	5	6	7
1. Dealing with co-workers	3	18	12	39	19	14	14
2. The feeling that different rules apply to different people (e.g favoritism	16	21	14	19	12	14	23
3. Feeling like you always have to prove yourself to the organization	21	21	16	19	15	14	13
4. Excessive administrative duties	29	35	10	18	11	10	6
5. Constant changes in policy/legislation	24	38	11	19	10	11	6
6. Staff shortages	9	6	15	19	9	21	40
7. Bureaucratic red tape	26	21	19	24	11	10	7
8. Too much computer work	44	34	15	14	6	2	4
9. Lack of training on new equipment	32	28	18	18	7	6	8
10. Perceived pressure to volunteer free time	54	22	10	9	5	9	9
11. Dealing with supervisors	39	30	13	13	7	6	10
12. Inconsistent leadership style	20	30	12	14	7	12	23
13. Lack of resources	33	26	12	11	9	11	16
14. Unequal sharing of work responsibilities	20	18	12	17	15	13	21
15. If you are sick or injured your co-workers seen to look own on you	38	30	17	10	4	9	7
16. Leaders over-emphasize the negatives (e.g supervisor evaluation, public complaints)	38	27	19	14	5	6	9
17. Internal investigations	53	30	18	14	2	1	0
18. Dealing with the court system	28	27	16	19	9	11	8
19. The need to be accountable for doing your job	32	26	18	18	10	6	8
20. Inadequate equipment	34	28	17	13	7	7	12

Table 8.

Number of participants who answered for Operational Stress Survey

	1	2	3	4	5	6	7
1. Shift work	21	23	11	27	10	6	10
2. Working alone	36	21	17	20	5	4	11
3. Overtime demands	26	22	14	17	12	14	11
4. Risk of being injured on the job	25	26	19	19	8	8	7
5. Work related activities on days off (court, community events)	48	27	11	13	5	6	6
6. Traumatic events	34	22	18	18	11	10	2
7. Managing your social life outside of work	32	21	21	15	9	8	10
8. Not enough time available to spend with friends and family	25	16	18	18	5	14	19
9. Paperwork	35	25	20	17	6	7	6
10. Eating healthy at work	10	23	19	24	12	18	10
11. Finding time to stay in good physical condition	12	19	21	18	13	19	13
12. Fatigue (overtime, shift work etc...)	16	21	12	19	16	15	17
13. Occupation-related health issues (e.g back pain)	28	18	3	4	9	13	13
14. Lack of understanding from family and friends about your work	34	23	13	8	9	12	17
15. Making friends outside the job	35	21	14	12	10	13	10
16. Upholding a higher image in public	36	20	15	17	12	8	8
17. Negative comments from the public	30	20	16	12	20	9	9
18. Limitation to your social life	22	18	23	18	11	10	14
19. Feeling like you are always on the job	18	21	14	16	15	14	18
20. Friends/family feel the effects of the stigma associated with your job	28	24	15	18	13	17	11

Hypothesis 1

Hypothesis H_1 states as follows: Levels of occupational and life stress are not correlated with information acquisition on decision dimension in a career related task.

Tables 9 & 10 present the multivariate correlation coefficient and correlation probabilities for the relationship between levels of stress and the search index (SI) for each decision dimension. As tables 9 and 10 demonstrate, no significant correlations were found.

Table 9.

Correlation values for Stress Levels and Search Indices

	SIStress	**SISecure**	**SIPromo**	**SICommute**	**SIPay**
Life stress	0.0700	0.1114	0.0469	-0.2768	0.1697
Operational stress	-0.0153	0.0696	0.1950	-0.0507	0.1788
Organizational stress	0.2420	0.1007	-0.02236	0.0098	0.0792

Table 10.

Correlation Probabilities of Stress Levels and Search Indices

	SIStress	**SISecurity**	**SIPromo**	**SICommute**	**SIPay**
Life stress	0.6049	0.4093	0.7289	0.0371	0.2068
Operational stress	0.9102	0.6070	0.1460	0.7081	0.1832
Organizational stress	0.8580	0.4560	0.0946	0.7081	0.1832

Hypothesis 2

Hypothesis H_2 states that the stress dimension search index is not significantly different than other decision dimension indices. Figure 3 presents the results of a one-way analysis of variance (ANOVA) on decision dimensions. Table 11 presents a statistical summary for the analysis. Table 12 indicates a significant difference was identified among the dimensions, [F (4, 270) = 18.15, p=.0001]. A Tukey's post hoc test revealed that pay was looked at significantly more than all other variables including stress (*M*= .09, SD= .19 p=.0001). Other statistically significant differences were found in that participants looked at the dimension of security significantly more than the dimension of commute time (*M*=0.28, SD=1.68 p=.03) and the dimension of job security was looked at significantly more than the dimension of stress (*M*= 1.51, SD= 1.68 p=.019) (Table 13).

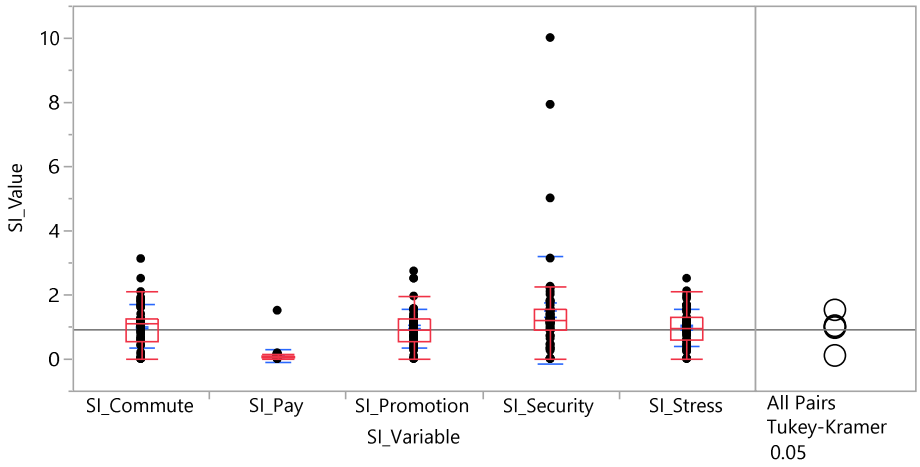

Figure 3. One -way ANOVA for comparison of search indices including Tukey's post hoc test with quartile boxes

Table 11.

Means and Std Deviations for one-way ANOVA of search indices

Level	**Number**	**Mean**	**Std Dev**	**Std Error**	**Lower 95%**	**Upper 95%**
Commute	55	1.02139	0.67360	0.09083	0.8393	1.2035
Pay	55	0.09034	0.19738	0.0.661	0.0370	0.1437
Promotion	55	0.09606	0.59630	0.08041	0.7994	1.1218
Security	55	1.51483	1.6833	0.22698	1.0598	1.9699
Stress	55	0.98895	0.57163	0.07708	0.8344	1.1435

Table 12.

Analysis of variance for comparison among search indices utility

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Condition	4	58.22916	14.5573	18.1574	0.0001*
Error	270	216.46602	0.8017		
C. Total	274	274.69518			

Table 13.

Ordered difference report for search indices utility

Level	- Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Pay	Promotion	0.870268	0.1707445	0.401351	1.339186	<0.0001*
Pay	Commute	0.931043	0.1707445	0.462126	1.399960	<0.0001*
Security	Promotion	0.554211	0.1707445	0.085294	1.023128	<0.0114*
Pay	Stress	0.898603	0.1707445	0.429686	1.367520	<0.0001*
Security	Commute	0.493436	0.1707445	0.024519	0.962353	<0.0336*
Stress	Promotion	0.028335	0.1707445	-0.440583	0.497252	0.9998
Pay	Security	1.424479	0.1707445	0.955562	1.893394	<.0001*
Stress	Commute	0.032440	0.1707445	-0.436477	0.501357	0.9997
Security	Stress	0.525876	0.1707445	0.056959	0.994794	0.0192*
Commute	Promotion	0.060775	0.1707445	-0.408143	0.529692	0.9965

Hypothesis 3

Hypothesis H_3 states as follows: Levels of occupational and life stress fail to predict utility of stress in a career related decision task. A simple linear regression was calculated to test the extent to which level of reported life stress predicts utility of stress during a career related decision task. Figure 4 presents a scatterplot with regressions line super-imposed. A non-significant regression equation was found [F (1, 57) = 1.59, p< .539) (Table 14) with R^2=.000 (table 15), indicating that 0% of the utility of stress cannot be attributed to life stress during a career related decision task. Thus, reported level of life stress is not a predictor of utility of stress during a career related decision.

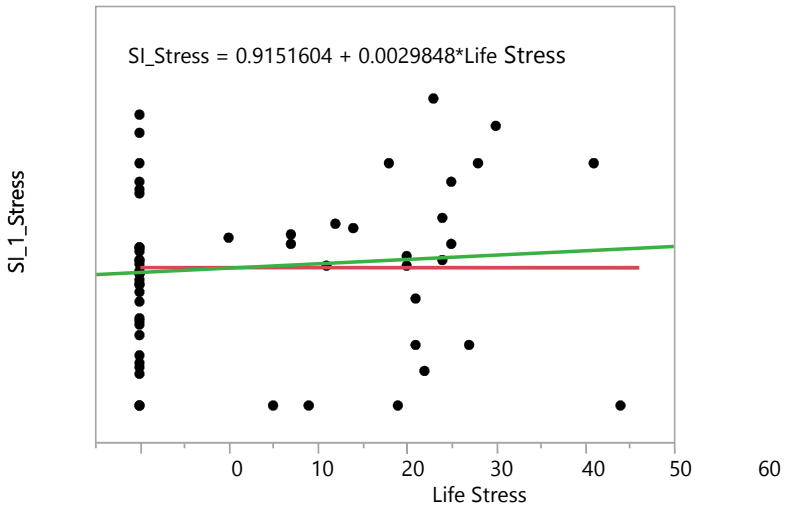

Figure 4. Scatterplot for Life Stress vs. Search Indices of Stress

Table 14.

Summary of fit for effects of life stress on stress search indices

RSquare	0.0069
RSquare Adj	-0.01116
Root Mean Square Error	0.593869
Mean of Response	0.954278
Observations (or Sum Wgts)	57

Table 15.

Parameter estimates for life stress vs. stress search indices

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	0.9151604	0.100953	9.07	<.0001*
LifeStress	0.0029848	0.004828	0.62	0.5390

Level of operational stress as a predictor of choice in a decision task

A simple linear regression was calculated to test the extent to which the level of reported operational stress predicts choice during a career-related decision task. Figure 5 presents a scatterplot for the data with regressions line super-imposed. An insignificant regression equation was found [F (1, 57) = 0.62, p< .915) (table 16) with R^2=.000 (. The results indicate that reported level of operational stress is not a predictor of choice.

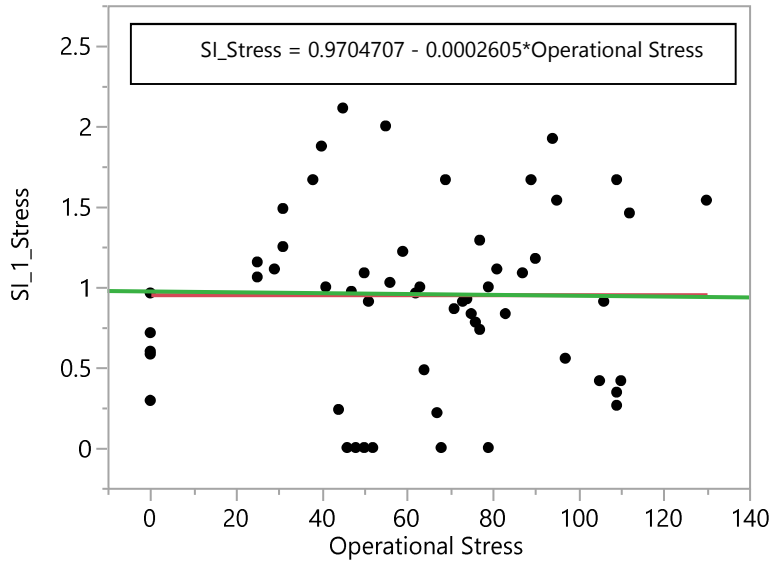

Figure 5. Scatter plot of Operational Stress vs. Search Indices of Stress

Table 16.

Summary of fit for effects of operational stress on stress search indices

RSquare	0.000209
RSquare Adj	-0.01797
Root Mean Square Error	0.595867
Mean of Response	0.954278
Observations (or Sum Wgts)	57

Table 17.

Parameter estimates for operational stress on stress search indices

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	0.9704707	0.170367	8.70	<.0001*
OperationalStress	-0.000261	0.002429	-0.11	0.9150

Level of organizational stress as a predictor of utility of stress in a decision task

A simple linear regression was calculated to test the extent to which level of reported organizational stress predicts utility of stress during a career related decision task. Figure 6 presents a scatterplot with regressions line super-imposed. An insignificant regression equation was found [F (1, 57) = .002, p< .895] Table 18 and Table 19) with R^2=.000, indicating that none

of the utility of stress can be attributed to organizational stress. Thus, reported levels of organizational stress is not a predictor of career decision choice among correctional officers.

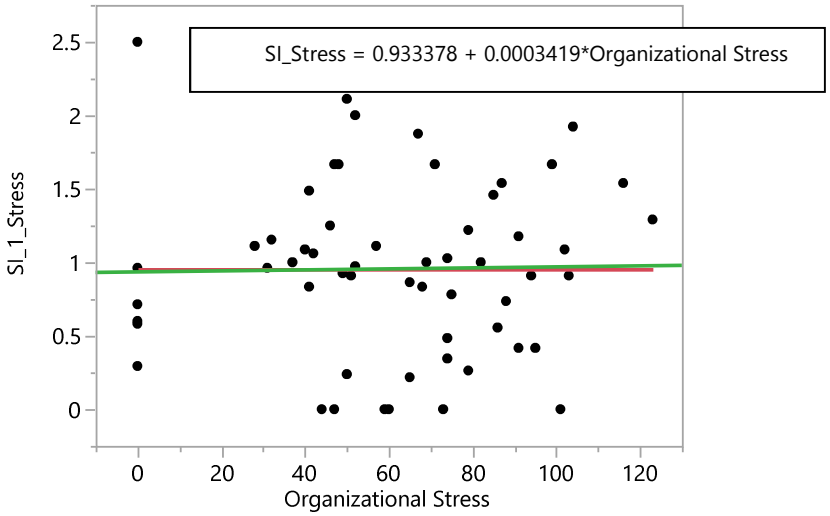

Figure 6.Scatter plot of Organizational Stress vs. Search Indices of Stress

Table 18.

Summary of fit table of effects of organizational stress on stress search indices

RSquare	0.004462
RSquare Adj	-0.01213
Root Mean Square Error	0.739108
Mean of Response	1.111682
Observations (or Sum Wgts)	62

Table 19.

Parameter estimates for effects of organizational stress on stress search indices

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	1.1876654	0.174014	6.83	<.0001*
OrganizationalStress	-0.00134	0.002585	-0.52	0.6060

CHAPTER 6. DISCUSSION

The purpose of this research was to understand the relationships between perceived life and occupational stress and the utility of stress in relevant decision making on the part of correctional officers. This work pursued the following overarching research question: Does one's level of occupational and life stress predict orientation toward stress as a decision dimension when correctional officers are engaged in career-related decisions? This research question has been translated to three hypotheses. The hypotheses and a summary of the results are as provided next:

H1: Levels of occupational and life stress are not correlated with information acquisition on the decision dimensions in a career related decision task. Hypothesis 1 is accepted. Only a weak negative, correlation was found between Life Stress and the search index of Commute Time. No other significant correlations were identified.

H2: The stress dimension search index is not significantly different than other decision dimension indices. Hypothesis 2 is accepted. Stress was not significantly different from other decision dimensions; search indices of Promotion and Commute Time were significantly different than the Pay decision dimension.

H3: Levels of occupational and life stress fail to predict utility of stress in a career related decision task. Linear regressions were used to test each one of the stresses independently. The results suggest:

- Reported level of **life stress** is a **very weak** predictor of utility of stress.
- Reported level of **operational stress** is **not** a predictor of utility of stress.

- Reported levels of **organizational stress** is **not** a predictor of utility of stress.

Essentially, the lack of significant findings in all hypotheses shows that the internal value or utility of stress is not a prioritized dimension in career-related decision. The results from Hypothesis 1 show that when comparing the relative utility of the decision dimensions, pay had greater utility than all other decision variables.

Since current research regarding the effects of stress on correctional officers primarily focuses on job retention as a function of job satisfaction, it is difficult to reflect on the results with respect to choice. The lack of supporting research in similar occupations such as police officers, fire fighters, or emergency room employees supports the claim that this line of research requires further priority. Changes in the current research design may yield a better understanding of stress levels, types of stress, and their overall effect on physical health, mental health, and decision making.

As stated previously, this research has shown that the utility of stress as a decision dimension was not significantly different than the other decision dimensions in correctional officers. However, this does not mean stress was not present. As stated in the literature review, the utility of a variable or of a decision outcome is dependent upon the individual and the environment in which the decision is being made. During this research, participants were not given the opportunity to identify or rank other stressors. It is possible that the variables presented as additional job-related dimensions (i.e., pay, job security, commute time, and career advancement) could themselves be linked to other forms of stress. For example, if individuals are financially stressed then choosing the option of a job with higher pay would eliminate or reduce that particular stress.

In addition to the concerns stated regarding the methods for measuring stress, the extent to which work stress positively or negatively affects other aspects of life should be considered. The conditions under which one microsystem affects other microsystems is known as Spillover Theory (Grzywacs, Almeida, & McDonald, 2002). Negative spillover and positive spillover are two subsets within this theory. Negative spillover is the extent to which co-occurring negative events or stressors occur within a short period of time in multiple domains (Grzywacs, Almeida, & McDonald, 2002). Research has shown that negative moods associated with work can carry over to family interactions and vice versa. However, the same effect has not been seen with positive moods or positive spillover (Williams & Allinger, 1994). While research regarding spillover in specific occupations is limited high levels of negative spillover have been reported in individuals who worked shift work, specifically rotating shifts (Grosswald, 2003) and is reported to be higher among women than men (Grywacz, Almeida, & McDonald, 2002). Negative spillover has also been associated with higher levels negative well-being; low levels of positive spillover from family to work have also associated with high levels of negative well-being (Grzywacz J. G., 1995).

Research regarding work family spillover in specific occupations is limited. Studies completed in Taiwan indicated that correctional officers who experience high levels of work family conflict showed lower levels of job satisfaction (Hsu, 2013). Similar research was completed by Leanor Johnson and colleagues among police officers here in the United States. This research stated that 728 police officers and 479 spouses reported the inability of officers to leave their job at work, such as treating family matters like work and wanting to maintain authority of all situations; referred to as Authoritarian Spillover (Johnson, Todd, & Subramanian, 2005).

Due to the nature of the health concerns faced by correctional officers, negative aspects of spillover are of interest. With negative stressors significantly affecting both work and home life, it can be difficult to attribute stress to a single source. Therefore, the utility is not in eliminating work stress or home stress, but in eliminating stress in general; eliminating any stress will decrease negative spillover and therefore reduce stress at home and at work.

An additional thought regarding the need to account for spillover theory is eliminating the aspect of life/work stress and focusing research on stress as a whole unit. A simple design change could be implemented to allow participants to freely identify/write in their own personal stressors. This method would provide participants the opportunity to identify their own stressors (work or personal) and/or rank these stressors in order of highest to lowest based on personal utility. The assumption behind this approach is that the variables causing higher stress levels will be expressed first, and then ranking the stressors would provide an additional scale system for any competing stressors. Allowing participants to rank their stressors will allow the theoretical framework to remain within the Theory of Utility. Aspects of habituation on the prioritization of expression of stress should be examined too, to ensure this approach produces accurate results.

The last implication of the insignificances identified in this study that should be entertained, is that correctional officers are not stressed, specifically related to occupational hazards and duties. As stated in the literature review, past research by Huckabee (1992) has indicated that correctional officers are not reporting 'being stressed' but the high levels of stress are implied due to the high rate of stress related illnesses. While the study herein supports this theory, the link between occupational stress and health concerns in correctional officers has yet to be documented.

CHAPTER 7. FUTURE RESEARCH

Research regarding the effects of stress on decision making in correctional officers should continue. Utilizing similar research to better understand the impact stress has on correctional officers' mental and physical health is a venue that should be considered. While modifications to this research may provide further insight, different techniques should be considered. A longitudinal study targeting individuals as they enter the occupation may reveal how the stress profile changes with tenure in the occupation. By targeting individuals as they enter the occupation, a baseline level of stress can be established, and the process of habituation can be documented. Additionally, a cross-occupation study would allow for comparison across occupations and searching for overarching patterns and health.

To address the more immediate needs of current officers and provide further light on the results herein, a focus group approach should be conducted. Focus group sessions should consist of eight to ten individuals from a variety of correctional facilities. Each group should contain individuals from certain demographic stratum such as age range or tenure in the occupation. This approach will allow for clustering around similar life experiences.

The following is a list of suggested questions developed throughout the research process that address several concerns described in the discussion section:

1) *What is the first thing that comes to mind when I mention the word stress?*

Usually the item or event that causes the greatest amount of stress is the first that comes to mind. Question 1 will provide participants the opportunity to identify their highest or most prominent stressor regardless of whether that stressor stems from work or home. A list can then be compiled and statistical analysis completed to determine if any one stressor is mentioned more frequently than other as was attempted in Hypothesis 1 of this research. In addition, stressors

can also be categorized into life stressors or occupational stressors. Statistical analysis can be completed to determine if there is a significant difference between life stress and occupational stress to support the Theory of Spillover.

This format will also offer additional benefit of providing the recommended design change proposed in the *Discussion Section* of allowing participants to list or rank their stressor(s). This question will also provide the platform needed to facilitate further discussion regarding specific aspects of the identified stressor(s). Once all focus group sessions have been completed, the frequency with which specific stressors are mentioned can be compiled into a list of the top stressors

2) *Why does this item or event come to mind, what characteristics make it stressful?*

Question 2 is designed to further the discussion mentioned in the previous question. Asking specifics about each participant's stressor will allow researchers to identify which category of stress each stressor falls into life, occupational, or potentially both. In the event a specific stressor is more prevalent than others, information relating to specific demographics can be obtained from this question. For example, if all demographic groups identify pay or money as their biggest stressor, this may be the primary stressor for very different reasons. A group in the 20 to 25 age range may report being financially stressed because they have large amounts of student loan or credit card debt. A group in the 26 to 30 age range may report being financially stressed due to their desire to buy a house and start a family. The 30 to 50-year-olds may report being financially stressed because they have a family and it is expensive to raise a family. Fifty to 60-year-olds may report being financially stressed due to a health issue or because they are getting ready to retire and have not saved enough over the years. Each group provides the same answer as their primary stressor, but for very different reasons. This information can then be

used to determine whether this stressor is a function of their job; their job is not paying a living wage, or a life stressor; their life style choices are creating the financial stress. By documenting discussion regarding how these stressors effect the microsystems of both personal and professional life, support for Spillover theory can be obtained.

This question can also provide guidance on measuring stress in the future. By listening to how correctional officers talk about stress, either the intensity or the frequency of each stressor, changes to the current surveys can be made or new surveys can be developed for future use. This will allow for standardized methods and eventual statistical comparisons as discussed in the (Discussion/Limitations) section of this paper.

3) *How do you know you are stressed, what physical symptoms or characteristics do you feel that make you realize you are stressed?*

Question 3 is designed to provide further insight into research discussed by Huckabee in which correctional officers report a lack of stress, ultimately leading to the concept of habituation. By asking correctional officers to think about their stress, you provide them with the opportunity to identify both the physical and psychological symptoms of their stress. Can correctional officers identify the physical or psychological symptoms of being stressed, or are they so used to being stressed that the changes associated with stress are cognitively missed or ignored?

This question can also be used to address the idea stated in the literature review by Huckabee that correctional officers are stressed but not reporting it. By asking the question in a different form such as “how often do you feel symptom X” or “explain when you feel those symptoms”, further insight into which circumstances cause correctional officers to experience

stress, as well as which types of stress, the levels of stress, and the frequency at which stress is experienced can be gained.

4) *If you had to rank the top three things that "stressed" you out what would they be? Please rack them in order from most stressful to least stressful.*

By allowing participants to identify their top three stressors, researchers will gain insight into which microsystem, home or work, is generating the greatest amount of stress. If all three stressors identified are work related, then researchers will have evidence to support work stress as the primary stressor and vice versa.

Question 4 can help researchers identify common themes of stress, on both an individual and demographic basis. Common themes can then be analyzed for a potential root cause, solutions, or to help identify effective coping mechanisms. For example, if the top three stressors listed are paying bills, saving for a rainy day, and investing for retirement, they are all financially-based and can be tied back to one stressor. If the top three stressors listed are paying bills, children's grades, and providing care for aging parents, the stressors are not related and do not have a common cause. If three stressors all have the same root cause, they can potentially be solved with one solution, however, people may be trying to solve them three different ways, increasing stress levels.

This question can also provide guidance on how future research should measure stress: by frequency or by intensity. By listening to the types of events or items that are causing stress researcher can gain a better understanding of, if the top stressors are ones people deal with on a daily basis, if they are infrequent events that put a large amount of emotional strain on individuals and families, or are they events that have not yet occurred but are anticipated by the participant such as a death in the family, or a major health crisis.

5) *Do you feel it possible to separate work stress from life stress?*

Question 5 can be used to help researchers determine whether participants cognitively think of stress as two separate systems: work stress and life stress. If stress is not cognitively separated, this can provide support for the concept of Spillover Theory where one microsystem (e.g., work) affects another microsystem (e.g., home). This question can also be used as a segue into discussing how participants manage stress and the various coping mechanisms used.

6) *How do you manage stress?*

By asking participant to focus on how participants manage stress, researchers are able to identify several key factors:

1) Are participants cognitively aware of elevated stress levels, and if so, do they have the tools to manage those situations?
2) Do participants differentiate types of stress in relation to coping mechanisms, meaning do they use one type of coping mechanism for work stress and another coping mechanism for home stress, or is one mechanism used for all types of stress?
3) Are their coping mechanisms (conscious or unconscious) having a positive or negative impact on their life and overall health? For example, if a participant says they go home from work every day and have a beer, is alcohol being used as a method for dealing with stress and if so, are they aware that they are using those methods as a tool for coping with stress.

This information can be used to provide insight into some of the health concerns addressed in the literature review and potentially provide intervention before health concerns become serious.

CHAPTER 8. LIMITATIONS

As indicated in the Results section, the major limitation in this study was the low response rate. Generalizability is difficult with this response rate, and validity and reliability are questionable. It is thus recommended to augment this study with a focus group approach. Guidelines and suggested questions are provided in the Discussion section.

The second limitation has to do with the demographics of the population who participated in this research; specifically, the disproportionate number of white males to females and minorities. Even though this research does not address gender or ethnicity, it has been documented by Hurst and Hurts (1997) that women face different stresses when working as a correctional officer (Hurst & Hurst, 1997). Moreover, women tend to face higher rates of work-home conflict resulting in higher rates of reported stress (Triplett, Mullings, & E., Examining the Effect of Work Home Conflict on Work Related Stress Among Correctional Officers, 1999).

A further limitation is that this study did not consider spillover. Grzywacz and colleagues defined spillover as "the extent to which participation in one domain (e.g., work) impacts participation in another domain (e.g., family)" (Grzywacz, Almeida, & McDonald, 2002, p. 28). Essentially, this theory posits that work life and home life are so intertwined in the American culture that 'work tends to come home' and 'home tends to go to work', therefore reducing stress separation when measuring stress is a cofounding factor that needs to be addressed.

One design change that may be implemented is the measurement of life stress. The life stress questionnaire focused on the frequency with which stress occurred, not the intensity or how a specific stressor made that person feel. The concern with focusing on frequency is embedded in a sub theory of Classical Conditioning known as habituation. Habituation is defined as "the diminishing of a physiological or emotional response due to a frequently repeated

stimulus" (American Heritage Science Dictionary, 2002). It is important to note that life stress is defined in the literature review as "events which force a person to face substantial change in their daily life and require some adjustment or behavioral adaptation". This raises the question, if a stressor is present frequently enough to where the response becomes routine, meaning individuals are no longer deviating from their norms to accommodate it, is it truly a stressor? For example, assume an individual experiences small financial stresses frequently causing them to rank it high on the life stress scale, say a seven, due to the frequency of its occurrence. Now, if that same participant experienced a significant emotional stress such as a divorce, will the individual rank the actual level of stress for the specific event on the life stress scale as low stress due to its infrequency? Not likely. The frequency with which events occur does not necessarily imply a higher utility for alleviating or eliminating that stress.

Developing a life stress scale instrument that uses a similar scale to those of operational and organizational stress will allow statistical comparison among these types of stress. This comparison can then be used to determine if one type of stress is significantly more prevalent, or felt more intensely, than other levels of stress and therefore has a greater effect on correctional officers. Future research on whether frequency or intensity is a better indicator of stress levels should also be considered.

CHAPTER 9. REFERENCES

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APPENDIX A: IRB APPROVAL

From: Office for Responsible Research

Title: Utility of Stress in County Correctional Officers

IRB ID: 16-165

Study Review Date: 6/8/2016

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey or interview procedures with adults or observation of public behavior where
  - Information obtained is recorded in such a manner that human subjects cannot be identified directly or through identifiers linked to the subjects; or
  - Any disclosure of the human subjects' responses outside the research could not reasonably place the subject at risk of criminal or civil liability or be damaging to their financial standing, employability, or reputation.

The determination of exemption means that:

You do not need to submit an application for annual continuing review.

You must carry out the research as described in the IRB application. Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., method of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. Changes to key personnel must also be approved. The purpose of review is to determine if the project still meets the federal criteria for exemption.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

Detailed information about requirements for submission of modifications can be found on the Exempt Study Modification Form. A Personnel Change Form may be submitted when the only modification involves changes in study staff. If it is determined that exemption is no longer warranted, then an Application for Approval of Research Involving Humans Form will need to be submitted and approved before proceeding with data collection.

Please note that you must submit all research involving human participants for review. Only the IRB or designees may make the determination of exemption, even if you conduct a study in the future that is exactly like this study.

Please be aware that approval from other entities may also be needed. For example, access to data from private records (e.g. student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. An IRB determination of exemption in no way implies or guarantees that permission from these other entities will be granted.

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

APPENDIX B: INFORMED CONSENT

Title of Study: Utility of Stress in Occupational and Life Decision of Correctional Officers
Investigators: Nir Keren, Ph.D., Warren Franke, Ph.D., Laura Kim
This form describes a research project and is intended to provide you with enough information to determine if you wish to participate. Research studies include only people who choose to take part—your participation is completely voluntary.

Introduction

The purpose of this study is to: evaluate the levels of occupational and life stress in correctional officers, associate these stress levels with different physiological and psychological outcomes, and determine which occupational variables have the highest utility when making decisions regarding career choices.

You are being invited to participate in this study because you have been identified as a frontline correctional officer. The job duties associated with this occupation are correlated with high levels of stress, high levels of negative health effects such as cardiovascular disease, and high levels of burnout.

You cannot participate if any of the following conditions apply to you:

- you are under the age of 18,
- your primary job duties are anything other than a frontline correctional officer
-

Description of Procedures

If you agree to participate, you will be asked to complete a series on online surveys. Completion of these surveys should take approximately 30 to 45 minutes. Below is a brief description of the surveys:

General Information. The following three surveys will be used to gather general information

The demographic survey will consist of questions relating to information about you as an individual. These questions will primarily focus on general information that will be used for the purpose of categorization and grouping within the research study.

A health questionnaire will ask questions regarding your overall mental and physical well-being. This questionnaire will also focus on various life style choices made by correctional officers.

A job questionnaire will be used to gather general information regarding your job duties as a frontline correctional officer. This survey will primarily focus on things such as rank, time on job, and tasks performed routinely while on duty.

APPENDIX C: PERCEIVED STRESS

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between each and you treat each one as a separate question. The best approach is to answer each question fairly quickly. This is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

	Never (1)	Almost Never (2)	Once a Month (3)	Fairly Often (4)	Often (5)	2-3 Times a Week (6)	Daily (7)
In the last month, how often have you been upset because of something that happened unexpectedly? (1)	o	o	o	o	o	o	o
In the last month, how often have you felt that you were unable to control the important things in your life? (2)	o	o	o	o	o	o	o
In the last month, how often have you felt nervous and stressed? (3)	o	o	o	o	o	o	o
In the last month, how often have you dealt successfully with irritating life hassles? (4)	o	o	o	o	o	o	o
In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life (5)	o	o	o	o	o	o	o

Perceived Stress Scale continued

In the last month, how often have you felt confident about your ability to handle your personal problems? (6)	o	o	o	o	o	o	o
In the last month, how often have you felt that things were going your way? (7)	o	o	o	o	o	o	o
In the last month, how often have you found you could not cope with all the things that you had to do? (8)	o	o	o	o	o	o	o
In the last month, how often have you been able to control irritation s in your life? (9)	o	o	o	o	o	o	o
In the last month, how often have you felt that you were on top of things? (10)	o	o	o	o	o	o	o
In the last month, how often have you been angered because of things that happened that were outside of your control? (11)	o	o	o	o	o	o	o
In the last month, how often have you found yourself thinking about the things that you have to accomplish? (12)	o	o	o	o	o	o	o

Perceived Stress Continued

In the last month, how often have you been able to control the way you spend your time? (13)	o	o	o	o	o	o	o
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? (14)	o	o	o	o	o	o	o

APPENDIX D: ORGANIZATONAL STRESS

Below is a list of items that describe different aspects of being a correctional officer. After each item, please indicate how much stress it has caused you over the last six months using a seven point Likert scale (see below) that ranges from 1- No stress to 7- A lot of stress.

	1- No stress	2	3	4- Moderate Stress	5	6	7- A lot of stress
Dealing with co-workers (1)	O	O	O	O	O	O	O
The feeling that different rules apply to different people (e.g favoritism (2)	O	O	O	O	O	O	O
Feeling like you always have to prove yourself to the organization (3)	O	O	O	O	O	O	O
Excessive administrative duties (4)	O	O	O	O	O	O	O
Constant changes in policy/legislation (5)	O	O	O	O	O	O	O
Staff shortages (6)	O	O	O	O	O	O	O
Bureaucratic red tape (7)	O	O	O	O	O	O	O
Too much computer work (8)	O	O	O	O	O	O	O
Lack of training on new equipment (9)	O	O	O	O	O	O	O
Perceived pressure to volunteer free time (10)	O	O	O	O	O	O	O
Dealing with supervisors (11)	O	O	O	O	O	O	O
Inconsistent leadership style (12)	O	O	O	O	O	O	O
Lack of resources (13)	O	O	O	O	O	O	O
Unequal sharing of work responsibilities (14)	O	O	O	O	O	O	O

Organizational Stress Continued

If you are sick or injured your co-workers seen to look own on you (15)	o	o	o	o	o	o	o
Leaders over-emphasize the negatives (e.g supervisor evaluation, public complaints) (16)	o	o	o	o	o	o	o
Internal investigations (17)	o	o	o	o	o	o	o
Dealing with the court system (18)	o	o	o	o	o	o	o
The need to be accountable for doing your job (19)	o	o	o	o	o	o	o
Inadequate equipment (20)	o	o	o	o	o	o	o

APPENDIX E: OPERATIONAL STRESS

Below is a list of items that describe different aspects of being a correctional officer. After each item, please indicate how much stress it has caused you over the past six months using a 7 point Likert scale (see below) that ranges from 1- no stress to 7- lots of stress.

	1- No Stress	2	3	4- Moderate Stress	5	6	7- A lot of Stress
Shift work (1)							
Working alone (2)	O	O	O	O	O	O	O
Overtime demands (3)	O	O	O	O	O	O	O
Risk of being injured on the job (4)	O	O	O	O	O	O	O
Work related activities on days off (court, community events) (5)	O	O	O	O	O	O	O
Traumatic events (6)	O	O	O	O	O	O	O
Managing your social life outside of work (7)	O	O	O	O	O	O	O
Not enough time available to spend with friends and family (8)	O	O	O	O	O	O	O
Paperwork (9)	O	O	O	O	O	O	O
Eating healthy at work (10)	O	O	O	O	O	O	O
Finding time to stay in good physical condition (11)	O	O	O	O	O	O	O
Fatigue (overtime, shift work etc...) (12)	O	O	O	O	O	O	O
Occupation-related health issues (e.g back pain) (13)	O	O	O	O	O	O	O
Lack of understanding from family and friends about your work (14)	O	O	O	O	O	O	O

Operational Stress Continued

Making friends outside the job (15)	o	o	o	o	o	o	o
Upholding a higher image in public (16)	o	o	o	o	o	o	o
Negative comments from the public (17)	❍	❍	❍	❍	❍	❍	❍
Limitation to your social life (18)	❍	❍	❍	❍	❍	❍	❍
Feeling like you are always on the job (19)	❍	❍	❍	❍	❍	❍	❍
Friends/family feel the effects of the stigma associated with your job (20)	❍	❍	❍	❍	❍	❍	❍

APPENDIX F: HEALTH QUESTIONNAIRE

CO Health questionnaire

1. During the past month, what time have you usually gone to bed?

2. During the past month, how long (in minutes) has it usually takes you to fall asleep?

3. During the past month, how many hours of actual sleep did you get at night? (This may be different than the number of hours you spent in bed)

4. On average how many times a night do you wake up before having to get up and start your day?

5. Would you say that in general your general health is
   Excellent (1)
   Very Good (2)
   Good (3)
   Fair (4)
   Poor (5)

6. Now thinking about your psychical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

7. Now thinking about your mental health, which includes stress, depression, problems with emotions, for how many days during the past 30 was your mental health not good?

8. During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work or recreation?

9. On average, how many times a week do you do perform physical activity outside of work or home duties (activities can include playing sports, lifting weights, swimming, walking)?

10. On average, how long do each of these sessions last?

11. Do you currently have any of the following conditions (please click on all that apply)
    High blood pressure
    High cholesterol
    Obesity
    Diabetes
    Pre-diabetes

APPENDIX G: JOB INFORMATON

CO Job information

What type of facility do you work in?
- Local (county or city)
- State Facility
- Federal Facility

What level of security is the facility you work in?
- Minimum
- Medium
- Maximum
- Other

What demographic is housed in your facility?
- Men
- Women
- Juvenile
- Other

What is your current rank?

How long have you worked at your current facility?

Did you work as a correctional officer before coming to your current location?
- Yes
- No

If yes then how long did you work as a correctional officer before coming to your current location?

Please select the description that comes closest to your work schedule
- I work rotating shifts
- I work permanent shift
- I work permanent shift but have irregular hours (such as call outs, or on call duties)
- Other

How long have you worked the above schedule (Years, months?)

If working a rotating schedule please describe how often it changes
- Days on
- Days off
- Once a Month
- Number of times before rotation

How many hours is your shift scheduled to be

- 8 Hours
- 9 Hours
- 10 Hours
- 12 Hours
- Other

During a rotation how many times (on average) do you work the following?

- Over time (stay longer than your shift is scheduled)
- Called out
- Come in and cover a shift

During your average shift what percentage of your time is spent performing the following tasks

- Interacting/supervising the inmates
- Paperwork
- Other

APPENDIX H: CORRECTIONAL OFFICER DEMOGRAPHIC SURVEY

Q1 Gender:

- ❍ Male
- ❍ Female

Q2 What is your current age?

_____

Q3 Current Marital Status

- ❍ Married
- ❍ Single, Divorced
- ❍ Single, Never Married
- ❍ Single, Widowed
- ❍ Living Together
- ❍ Other

Q4 What is your race/ethnicity

- ❍ Asian
- ❍ Black or African American
- ❍ Hispanic or Latino
- ❍ Native American or Alaskan Native
- ❍ White

Q6 What is the highest level of education

- ❍ High school diploma or equivalency (GED) (1)
- ❍ Associates degree (Junior College) (2)
- ❍ Bachelor's Degree (3)
- ❍ Master's Degree (4)
- ❍ Doctorate or Professional (MD, JD, DDS, etc...) (5)
- ❍ Other (specify) (6)
- ❍ No Response (7)

Q7 If you have children living at home, how many are in each of the following age groups?
Under 4 years old : _____
4 through 12 : _____
13 through 18 : _____
19 and over : _____

Total : _____

Appendix I: DECISION MATRIX

Due to certain circumstances you can no longer continue working in corrections. A head hunter you hired identified five potential jobs for you (labeled A-E). The head hunter organized information on these jobs in a table format but did not include the job titles themselves; he indicated though that the jobs comply with what you described as types of work you will enjoy.

The head hunter collected information on the following factors: Commute time, Benefits, Stress, Job security, and Opportunities for promotion, all decision factors you indicated important to you during the interview. To review the information on a certain factor for a certain job, press on the 'Click' link on the intersection between the Job and the factor. Upon clicking, a window with the information will appear. The information in the window is descriptive and also includes a numeric value that ranges from (-10) to (+10), providing a numerical sense of the quality of the job pertaining the specific factor. A low value (-8 for example) indicates that the specific job is evaluated strongly negative on the factor. Consequently, a value of (+9) indicates a strong positive evaluation on the factor, and a value of zero provides that the job is evaluated neither positive nor negative with respect to the specific factor. Please review the information on the job until you feel that you are ready to make a decision on your preferred job. Then click the radio button at the lowest row, below the job you choose.

The head hunter forgot to ask you for the relative importance each one of the factors play in your decision. He there for asked that you indicate the level of importance of each one of factor on your decision. To do so, please enter a value in the range of '0 to 10' for each factor the column on the right. A value of '0' will indicate that the factor played no role in your decision, while '10' will indicate that the factor carried an utmost importance in your considerations.

Upon completion, click 'submit' to cast your choice.

	Job A	Job B	Job C	Job D	Job E
Stress	This position requires long business meetings, negotiating contracts and business deals with a wide range of different people. Decisions are heavily scrutinized by shareholders and by your employees. You should expect long hours. This position also requires frequent overnight travel that will take you away from your family for several days at a time (-8)	Stress in this position is low. You will be given a list of general job duties which are to be completed as necessary. You will have some management over sight, however you will primarily be working with one co-worker. This position requires lots of standing, sitting, climbing ladders, walking, and lifting; it also requires to operate software such as Word, Excel, and other company programs. This job is a set shift position (7-3, 3-11, or 11 -7) five days a week with one mandatory weekend. (+3)	A low stress position, primarily consisting of desk work. Generally, working hours are eight to five on weekdays only; however it occasionally requires late hours. (+4)	This is a managerial position where you will be supervising several employees. Work includes processing paperwork, and requires high level of decision making. Due to its sensitivity, the job often requires late hours to ensure that all shift duties have been completed. (-4)	A low stress position, primarily consisting of desk work. Generally, working hours are eight to five on weekdays only. (+6)

Decision Matrix Continued

Job Security	You are reporting to company's shareholders directly. As long as the company is doing well you have little risk of losing your job. (+8)	This position is fairly secure, as long as necessary job duties are being performed correctly, within reasonable time and completed in compliance with company standards job security is relatively high. However if orders for the company's products decrease there is the potential for being laid off. (+3)	Job security is somewhat of a concern here due to the dynamics of the market. (-7)	While a good position, the management is not hesitating to call employees to the office to discuss performance issues. Repeated calls may result with a termination. (-4)	This position is volatile. On days where sales are slow your shift may be canceled in a moment's notice. However, the company rarely let employees go. (+1)

Decision Matrix Continued

Promotion	You will need to move to a completely different job in order to gain promotion. (-5)	Opportunities for promotion are few, and when opportunity arises the competition is fierce. (-9)	Quite a few opportunities for promotion exist at all time. Some with option to completely change the type of work if you wish. (+10)	Opportunities for promotion are few; However, when an opportunity arises the chance to be promoted is reasonable. (+4)	While currently opportunities for promotion are few, the plan to add a new branch will create new opportunities. (-2)
Commute Time	Commute time is insignificant; approximately 10 minutes' drive with no traffic. (+9)	Commute time is approximately 15 minutes, including potential delays due to traffic. (+2)	This job requires traveling approximately 60 miles each direction. Traffic may add further travel time. (-9)	Commute time is approximately 15 minutes, including potential delays due to traffic. (+2)	Approximately 40 miles drive each direction. No traffic concerns though. (-4)
Pay Benefits	Pay: 5% increase. Health insurance: yes, but with significant co-pay. Contribution toward 401K: minimal. Dental: No. Vision: No. (-4)	Pay: 10% increase Health insurance: yes, with marginal co-pay. Contribution toward 401K: reasonable. Dental: Yes. Vision: No. (+1)	Pay: 10% increase. Health insurance: yes, with marginal co-pay. Contribution toward 401K: reasonable. Dental: Yes. Vision: Yes. (+2)	Pay: 10% increase. Health insurance: yes, with marginal co-pay. Contribution toward 401K: reasonable. Dental: Yes. Vision: Yes. (+2)	Pay: 5% increase. Health insurance: yes, but with marginal level co-pay. Contribution toward 401K: minimal. Dental: No. Vision: Yes. (-1)