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PROBATION OFFICER PRODUCTIVITY: USING THE EFFORT-REWARD
IMBALANCE MODEL

by

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A dissertation submitted in partial fulfillment of the requirements
of the degree of Doctor of Philosophy
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ABSTRACT

The purpose of this study is to determine the extent to which workplace efforts and rewards are associated with probation officer stress, overcommitment, health, and productivity. This research uses the effort-reward imbalance model, which is an indicator of job stress, on a group of criminal justice probation officers. The probation officers completed questionnaires regarding their perceptions of health, perceived reward, perceived effort, perceptions of overcommitment, and perceived productivity. Afterward, the responses were collected, and analyses were conducted using correlation and multiple regression to determine the extent to which perceptions of effort, reward, and overcommitment effect probation officer productivity and health. A sample of 207 probation officers from Central Florida selected probation agencies are used in the study, with an individual response rate of approximately 90%. The results suggest that perceptions of reward have a limited effect on perceived productivity. Furthermore, the study found a significant relationship between effort-reward imbalance and perceptions of overcommitment. The study also found a significant relationship between perceptions of overcommitment and perceptions of reduced health. Finally, the study found that the interaction of effort-reward imbalance and overcommitment are correlated with negative perceptions of health. The results of the study demonstrate the ubiquity of perceptions among probation officers that they are overworked and under compensated. The results also suggest the need for improvements in organizational practice, so that efficiency and effectiveness of probation officers can be maximized.

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1. INTRODUCTION

It is well known that stress impacts our daily lives in various ways. Depending on its severity, stress can damage our physical and psychological well-being. There is acute stress, which includes stress inducing events, many of which can be considered as normal or expected. Typically, this type of stress is associated with daily activities such as household chores, sitting in traffic on the way to work, or paying monthly bills. There are also important sources of acute stress, such as death of a loved one, divorce, or losing a job. For persons devoid of proper coping skills and stress release outlets, acute stress may develop into chronic stress. Chronic stress involves sizeable amounts of stress over an extended period of time and can lead to serious physical and mental health issues.

Research suggests that stress is linked to challenges that stem from a difficult and hostile environment (Weiner, 1992). At some point, these environmental challenges become too difficult to deal with and, as a result, have adverse effects in areas such as decision-making, which in turn lead to maladaptive behavioral decisions (Galvan and Rahdar, 2013; Wahrendorf et al, 2008).

For the purposes of this study, we will define stress as a reaction that occurs when demands placed on an individual are so overwhelming that the individual's coping mechanisms become insufficient (Bangasser, 2010). Stress is something one must be able to handle in order to live a mentally and physically healthy life(Kobasa, 1979).

Studies suggest that poor stress management can cause severe health problems such as fatigue, loss of sex drive, anxiety, isolation, depression, sleep deprivation, and other psychological disorders (Heilig, 2004; Lupien, McEwen, Gunnar, and Heim, 2009; Vancampfort et al, 2011; Violanti et al, 2011). With the concept of stress being so relevant to our health, it is important to explore areas where higher levels of stress may occur, such as the workplace.

Conceptually, occupational stress can be described as when there are discrepancies between job demands and the ability of employees to manage or cope with them (Babatunde, 2013). Studies have suggested that work-related stress accounts for a large portion of total stress experienced by an individual (Quick, Bhagat, Dalton, and Quick, 1987; Green and Baker, 1991; Wainwright and Calnan, 2002; Karasek and Theorell, 1990; Naqvi, Khan, Kant, and Khan, 2013). Moreover, work stress influences the health of employees (Lee and Ashforth, 1996; Ganster and Rosen, 2013). There are several factors in the workplace that can produce stress including work pressure, lack of social support, lack of control over work, and being responsible for other people (Green and Baker, 1991). The stress caused by these workplace factors may prevent workers from achieving work goals which may inhibit an organization from maximizing efficiency (Crawford, LePine, and Rich 2010). Cooper, Cartwright, and Robertson (2005) suggests that there is a fundamental connection between stress and productivity, given that work stress eventually can result in absenteeism, exhaustion, and anxiety. These variables are associated with reduced health, which research has shown can be affected by work stress (Leiter, et al, 2013; Grawitch, Gottschalk, and Munz, 2006). Despite these findings, there has been minimal research exploring work stress, and its impact on health and productivity.

Moreover, research investigating work stress, health, and productivity often is based on small sample sizes and specific work populations (Munz, Kohler, and Greenberg, 2001; Wright, 1999). Prior research indicating that there may be a link between work stress and employee health and productivity implies an obligation by employers to try and create the most productive work environment, both for the success of the organization and the well-being of the workers (Cooper, Cartwright, and Robertson, 2005).

Research suggest that criminal justice occupations are among the most stressful occupations in the United States (Gershon et al, 2009). Criminal justice employees work in high crime and dangerous areas, subject themselves to traumatic events, and are at an increased risk for violence (Collins and Gibbs, 2003). Criminal justice agents experience two times the rate of suicides in the United States compared to the overall population (Violanti, et al 1998; Violanti, 2004).

Within the criminal justice context, significant research has been conducted on the effects of stress as it relates to police officers and correctional officers. For example, Collins and Gibbs (2003), Armstrong and Griffin (2004), Ramey et al (2012) and Violanti et al. (2011) conducted studies of police and correctional officers exploring the sources of perceived stress. In general, these studies suggest that occupational stressors, such as work-life balance, organizational support and amount of workload, are major contributors to stress among police and correctional officers. Dowler (2005) suggests that some police officers attribute high levels of stress to excessive criticism from within the organization.

Notwithstanding the multiplicity of research studies regarding police and correctional officers stress, there are fewer studies examining other criminal justice personnel who have similar responsibilities of providing social control and community safety. Probation officers have a primary responsibility for supervising offenders who were either incarcerated and then released or were placed directly on probation. It can be predicted that high levels of stress are common among probation officers due to the similarities in job description with police (Gayman and Bradley, 2013).

The purpose of this research is threefold. First, this study will explore the extent to which organizational variables related to stress such as organizational support, recognition, and promotional prospects affect perceptions of probation officer productivity. Next, this study will explore the extent to which occupational stress affects probation officer perceptions of excessive work-related behaviors. Finally, this study will explore the extent to which the excessive work-related behaviors affect perceptions of probation officer health. Specifically, the study will explore organizational variables, as they may be easier to modify versus factors associated with the job specific duties of probation officers.

This study will attempt to help determine the extent to which probation officer perceptions of organization variables influence probation officer productivity. That is, to what extent could management operations, perceptions of respect and esteem, and potential job prospects have on a probation officer's perceived ability to effectively carry out daily tasks, maximize effort, and produce quality reporting. Additionally, this study will attempt to help determine the extent to which probation officer's perceived level of job strain affects their

perceptions of being able to cope with work stressors. Finally, this study will attempt to determine the extent to which probation officer's ability to cope with work stressors affect their perceptions of overall well-being. In other words, is a probation officer's ability to deal with difficult situations related to perceived level of overall health? Continued research in this area can potentially identify specific job-related stressors that affect probation officers' abilities to carry out their duties. It is also important to explore the organizational variables that may lead to probation officer stress so that future research can identify methods of job stress reduction for probation officers. This research is important in that the results of this study can contribute to the implementation of specific evidence-based practices and policies related to the reduction of stress in criminal justice workers and probation officers. Furthermore, this study can help in the creation of training programs and seminars to help probation officers cope more effectively with duties and tasks related to the demands of the organization.

2. LITERATURE REVIEW

Occupational Stress, Health, and Work Productivity

In this section, we will explore the inter-relationships among occupational stress, employee health, and work productivity. We will see that there are links between the three concepts, and yet there has been minimal research exploring these links.

Occupational stress has been found to affect individuals across different types of employment (Naqvi, Khan, Kant, Khan, 2013). There have been copious amounts of research devoted to the area of occupational stress and health and how the concepts relate to each other (LaRocco, House, and French, 1980; Landsbergis, 1988; Cooper and Cartwright, 1994; and Richardson and Rothstein, 2008; Naqvi, Khan, Kant, and Khan, 2013; Wainwright and Calnan, 2002). Studies have suggested numerous antecedents to occupational stress such as work overload, role ambiguity and role conflict (Castle, 2005; Ghaddar, Mateo, and Sanchez, 2008; Borkakoty, Baruah, and Nath, 2013). While some level of experience with stress can be perceived as normal, consistent or exaggerated periods of stress have shown to have negative effects on individuals (Naqvi, Khan, Kant, and Khan, 2013). Some of the issues resulting from excessive occupational stress include a drain of energy, lack of focus, and anxiety (Richardson and Rothstein, 2008; Motowidlo, Packard, and Manning, 1986). These problems can result in the individual's failure to maintain efficiency in completing necessary occupational tasks and goals. The consensus of research in this area is that high levels of stress among employees can have a negative effect on their health (House, 1974; Leong, Furnham, and Cooper, 1996; Green and Baker, 1991; Buckley et al., 2015). Specifically, organizational variables such as managerial

support and recognition of work play the most consistent role in adverse health conditions related to stress (Karasek and Theorell, 1994; Beheshtifar and Nazarian, 2013).

The health of an individual plays an important role in their everyday functions, particularly within the work setting (Cooper and Cartwright, 1994; Boles, Pelletier, Lynch, 2004). High levels of work demands placed on individuals have shown to create high levels of stress (Cooper, Cartwright, Robertson, 2009; Naqvi, Khan, Kant, Khan, 2013; Wainwright and Calnan, 2002; Karasek and Theorell, 1990). High levels of work-related stress have been linked to specific health risks such as raised blood pressure, depressed mood, irritability, chest pains, coronary heart disease, early retirement, and premature death (Karasek and Theorell, 1990; Cooper and Cartwright, 1994; Shimazu and de Jonge, 2009; Beehr, Bowling, and Bennett, 2010; Schirmer and Lopez, 2001). Additionally, it is suggested that the stress experienced by one employee may affect the safety and well-being of other employees (Rhodes and Steers, 1981). Moreover, research has suggested that stress can affect an individual's general health and that those general health issues are associated with a worker's ability to be productive (Allred, 2012). The previous research suggests that employee health is the link between occupational stress and productivity.

Work productivity can be described as the level of the quality and quantity of work performed (Allred, 2012; Evans, 2004). Evaluating work productivity is important in that there is much at stake in terms of maximizing efficiency and effectiveness of any given organization (Motowidlo, Packard, and Manning, 1986). Efficiency and effectiveness can be affected by limited resources and competition from other businesses and organizations. However, these

factors are largely out of the control of an organization. Despite the lack of control regarding outside resources and competition, the ability to improve and maximize employee efforts may be something that organizations can alter from within. Previous literature goes on to suggest that work productivity may be affected by stress within the workplace (Clements-Croome, 2002; Green and Baker, 1990).

It is suggested that approximately \$153 billion is lost annually by organizations through absenteeism (Witters and Agrawal, 2011). Some of the reasons behind absenteeism are rooted in stress associated with the work environment itself (Edwards, 2008; Marmot, Bloomer, Goldblatt, 2013). Previous studies have utilized absenteeism as a method of measuring work productivity, arguing that being away from work leads to the reduced capacity to accomplish work-related goals (Allred, 2012; Johns, 2002; Evans, 2004). Therefore, it can be assumed that organizational practices and organizational cultures play a role in the productivity of their employees. With this in mind, it is important to determine whether occupational compensations are sufficient to maximize employee productivity and whether occupational compensations are sufficient enough to minimize counterproductive behaviors.

Specifically, within criminal justice occupations, previous literature has suggested that increased stress may lead to diminished health of criminal justice personnel (Garbarino, Cuomo, Chiorri, and Magnavita, 2013; Lim and Kim, 2016; Collins and Gibbs, 2003). This reduction in health could lead to less productivity.

Issues Within State and Local Government

In this section, we will consider the budget constraints on state and local governments in the United States. Specifically, we will see that the Great Recession has changed the way government agencies budget. We also will see how these changes have affected state and local government employees. In the end, we will conclude that in this new era of budget restrictions, non-monetary organizational improvements are necessary in order to maximize efficiency, effectiveness, and welfare of government employees.

The results of the "Great Recession" that occurred in 2008/2009 have been well documented (Elsby, Hobjin, and Sahin 2010; Blinder and Zandi, 2010; Farber, 2011; Hurd and Rohwedder, 2010). Specifically, the recession has had adverse effects on all levels of government, particularly the state and local levels. Increased numbers of government employee layoffs, shortened work schedules, and higher demands for work output are a few of the major problems that have occurred as a result. Additionally, because state and local governments dedicate most their budgets to employee salaries and benefits, budget cuts brought on by the recession have been largely felt in the pockets of state and local government employees, particularly those on the bottom of the organizational ladder. The aftermath of these economically difficult times has been widespread and highly detailed. Examples include states requiring four-day work weeks for government employees, mandatory increases in health benefits costs, and extended retirement ages (Levine and Scorsone, 2011). The result of mandated changes, such as mandatory furlough days or increased share of health benefit costs, makes it more difficult for employees to pay for the necessities such as food, clothes, and

shelter. Additionally, research suggests that reduced government employee pay creates a decline in the disposable income of government employees, which could create a reduction in local government revenue from collection of property taxes, taxes on goods, etc. (Levine and Scorsone, 2011). These reductions in revenue only contribute to increased job-related demand on government employees.

The effects of the recession specific to government employees tell only half the story. The other component is the fact that many states have eliminated jobs and/or created hiring freezes within specific agencies. This burden falls on government workers responsible for taking on additional work to compensate for individuals who were laid off or the individuals who will not be hired due to hiring freezes. The additional demands placed upon government workers can result in a less efficient and effective government workforce if workers cannot handle these demands. Ultimately, this slows the process of economic recovery even more. In any event, the effects of legislative decisions on the declining number of government workers has been well documented (Martin, Levey, and Cawley, 2012; Willard et al, 2012; Greenblatt, 2010). The elimination of government jobs has made it even more difficult for those remaining government employees to successfully execute their duties.

Public sector employees are sometimes viewed as being lazier, less educated, and less helpful than their private sector counterparts (Markovits, Davis, Fay, and Dick, 2010; Fernandez and Moldogaziev, 2011). Proponents of public sector employee may argue that what may seem like laziness or unhelpfulness may really be a result of fewer resources, lack of support from administration, and many other variables that private sector employees do not experience as

intensely (Vigoda 2000). Research suggests that the work motivations between the public and private sectors are different (Frank and Lewis, 2004). We should be cautious when comparing public and private employee because there are differences in what each type of employee values and what motivates each type of employee.

Motivators within the workplace generally are either intrinsic or extrinsic. Intrinsic motivation can be described as engaging in an activity for inherent gratification, and extrinsic motivation can be described as engaging in an activity for some type of tangible reward (Ryan and Deci, 2000). Research suggests extrinsic factors alone are not enough to motivate public sector employees. Public sector employees are more in need of intrinsic motivations compared to private sector employees (Crewson, 1997; Lyons, Duxbury, Higgins, 2006; Bellante and Link, 1980; Luechinger, Stutzer, Winkelmann, 2010). Despite these studies suggesting intrinsically motivated individuals gravitate towards the public sector, the explanation behind the findings is less clear. (Georgellis, Iossa and Tabvuma, 2011; Kim, 2012). Regardless, studies have suggested that these intrinsic factors are key to the overall happiness and well-being of public sector employees, even more so than their private sector counterparts (Lyons, Duxbury, Higgins, 2006; Bellante and Link, 1980; Luechinger, Stutzer, Winkelmann, 2010).

We can infer that less money, more responsibility, and less organizational support have created an increasingly stressful environment for government employees (Noblet and Rodwell, 2008; Reddick and Cogburn, 2007). Research suggests that situations likely to lead to adverse employee responses are those evoked by perceptions of unfairness or inequality (Reddick and Cogburn, 2007). Primary examples include the previously discussed increased workloads,

reduced salaries, and minimal support. Furthermore, these variables have a direct correlation with the level of stress an employee may feel (Bakker et al, 2000; Fields, Pang, and Chu, 2000). How government employees view their work conditions is determined in part by whether their work needs and requirements are met. It is suggested that most employees display higher levels of job satisfaction when the characteristics of their work environment satisfy their needs (Cox and Griffiths, 2010; Greguras and Diefendorff, 2009). Included in the needs of a local or state employee are non-monetary variables including working relationships, client-employee relationships, and professional developmental opportunities (Greguras and Diefendorff, 2009).

Perhaps more so than in the private sector, organizational characteristics play a critical role in the well-being of government employees. Research suggests that hierarchical position, agency politicization, agency goals, and the level of government can influence the effectiveness of the individual worker (Im, 2009). It is critical to take into account these specific variables that are attributable to higher stress, decreased health, and lessened employee productivity, particularly in state and local governments. Without adequate support and/or compensation, it may become increasingly difficult to motivate employees and extract their best efforts. It is important to explore the effects of these working conditions on government employees so that the communities can receive maximum value in the provision of government services. The results of this increased productivity could be an increase in efficiency and effectiveness within state and local government operations (Linder, 1998; Victor 2014).

Budget Constraints Within State and Local Florida Governments

In this section, we will consider budget restraints specifically related to government agencies in the state of Florida. Specifically, we will discuss reduced funding, a new tax on government employees, and Florida's eventual recovery from budget crisis. In the end, we will conclude that smaller budgets could continue to negatively affect Florida government employees, which can then affect individual stress and work productivity.

Specific areas of the country have been affected more by recent economic difficulties than others. One of the more affected areas has been the state of Florida government (Sherman and Lane, 2009). Five states including Florida has accounted for half of the state and local government job losses in the country. There has been a sizeable decline in the number of state and local employees not involved in education, such as state colleges and university employees (Boyd, 2009). Research suggests the number of government jobs in Florida has rapidly declined since the recession began in the fourth quarter of 2007 (South Florida Business Journal). Additionally, Florida is the state with the sixth largest decline in government workers (Gale, 2011). The Florida government experienced some of the worst effects of the great recession, which ultimately called for measures to reduce the state deficit at the expense of government employees.

In an attempt to save money, the Florida legislature put into law a mandated a three percent salary contribution by Florida government employee salaries in order to help pay for the cost of retirement. The new law is expected to save the state approximately one billion dollars annually. The idea of taking money away from government employees certainly did not

sit well with those employed by government agencies in Florida, so much so that the law was taken to the Florida Supreme Court in 2011. In 2013, the Scott v Williams case ruled in favor maintaining the 3 percent levy against Florida government employees. The resulting loss of income, along with the higher work demands placed on government employees in Florida, is cause for concern within, across, and beyond the public sector in Florida. There is numerous research supporting the notion that the Florida government has been greatly affected by the recession (Anderson, Kirlin, Wiseman, 2012; Neumark, 2011; Katz, 2010). As a result, services provided by state and local governments have been severely limited, and those employees who remain have experienced increased workloads. Moreover, decisions made by the Florida government to reduce the state deficit called for government employees to carry the burden in the form of reduced salaries, which could ultimately affect employee levels of stress and productivity.

Florida's government has had to make drastic moves to solve the budget deficit and get out of debt. Since the recovery from the Great Depression, Florida legislatures have succeeded in solving Florida's debt problem, so much so, that there was a projected budget surplus upwards on \$1 billion dollars in the year 2015 (Anderson, 2015). Given these and similar projections, Florida legislatures are making continued attempts to rectify and maintain the Florida budget. Many of these proposals to fix the budget involve public sector employment including more government employee layoffs within various State organizations. The mere thought of potential layoffs can cause a certain level of stress among state and local

government employees in Florida. This job insecurity could contribute to higher levels of stress and reduced levels of productivity among employees.

Budget Constraints Within Criminal Justice Organizations

In this section, we will explore budget constraints specifically related to criminal justice organizations. Specifically, we will see how criminal justice manpower has been reduced in recent years and how more tasks are being completed by fewer personnel. We will conclude that fewer criminal justice personnel is something that will remain for an extended period of time. Consequently, workers will be tasked with more responsibility, and organizational methods to promote productivity is needed in order to maintain public safety.

Regarding public safety, the recession has taken a large toll on resources, which can ultimately affect the safety and well-being of our communities (Richardson, 2011). Wilson and Weiss (2014) suggest that police agencies are still struggling with the need to meet public safety demand, while unable to staff their agencies sufficiently. To address the budget cuts, numerous police departments have had to lay off dispatchers and other peripheral criminal justice personnel, leave jobs unfilled, and even layoff police officers (Parlow, 2012; Terrill, Rossler, and Paoline, 2014). Additionally, agencies had to use mandatory furloughs to shorten police officer hours as a method to save money (Reisig, 2010). At the peak of the recession, some police agencies took drastic measures such as reducing responses to non-emergency situations and declining to respond to motor vehicle thefts (Parlow, 2012).

The number of police officers on duty also saw a dramatic decline. From 2004 to 2008 the average number of police officers was about 250 per 100,000 people. In 2011, the number

of police officers was 184 per 100,000 people (Aviram, 2015; Reisig, 2010). The decline in police and police-related resources can be associated with a new normal for numerous police agencies across the country or a new reality where efforts at cost reduction, prudence, and frugality are of high importance (Aviram, 2015). The responsibility of keeping civilians safe has fallen on an increasingly smaller group of individuals, potentially resulting in higher levels of stress and unhappiness amongst those individuals. The results of a reduced pool of criminal justice personnel could also potentially lead to less safe communities (Chalfin and McCrary, 2013; Vollaard and Hamed, 2012; Lambert, Hogan, and Altheimer, 2010).

With the new, smaller government, it is important to explore areas where government workers may feel overwhelmed, overworked, and generally unsatisfied, particularly in the areas of public safety, where the livelihood of others is dependent on a small group of individuals tasked with the overall safety of the general population (Gayman and Bradley, 2013; DeMichele and Payne 2007; Roscoe, Duffee, Rivera, and Smith, 2007). These findings highlight the importance of exploring methods of maximizing the output of the public safety workforce. While fewer resources may be available today, it is the responsibility of criminal justice agencies to protect their communities as best they can regardless. To adequately protect their communities with reduced resources and staff, these organizations must attempt to maximize employee productivity. To maximize productivity among criminal justice personnel, it is important to explore the sources of criminal justice stress so that ways to reduce this stress and promote higher levels of work output can be developed.

Sources of Criminal Justice Stress

In this section, we will identify sources of stress within criminal justice occupations. Specifically, the arduous tasks related to public safety and community control will be discussed. We will find that there are a number of factors associated with criminal justice stress, including public opinion, increases in workload, work hours, and organizational support. It will be concluded that there are many sources of stress within criminal justice organizations, but not all areas of criminal justice have been explored to the same extent. There may be differences in occupations that call for different methods of stress reduction and/or productivity increase. The situation begs for further research into specific areas of criminal justice where previous investigation is not as prevalent.

The result of extended periods of stress can lead to a decrease in general well-being, which could lead to a reduction in work productivity (Allred, 2012). Studies indicate that criminal justice workers are at a high risk of experiencing elevated levels of stress, including probation officers (Matthews, 2011; Ramey, Downing, Franke, Perkhovkova, and Alasagherinin, 2011). Research suggests the more arduous the work, the higher the likelihood the job is to increase levels of stress (Brown and Campbell, 1994; Cooper and Williams, 1994). Occupations within criminal justice are considered to be one of the most stressful occupational fields (Whitehead, 1989; Bradway, 2009). There are several factors that can be attributable to the high stress levels in criminal justice occupations. Factors such as being involved in hostile and/or violent situations, frequent exposure to the miseries and hardships of life, and making decisions that can directly affect other peoples' lives are some of the contributable factors of

stress that few other occupations have to endure (Lieberman, Best, Metzler, Fagan, Weiss, and Marmar, 2002; Anderson, Litzemberger, and Plecas, 2002).

Research suggests that public opinion is another factor in the stress placed upon the workers and organizations. (Hinds, 2009; Lee and McGovern, 2013; Newburn, 2014). In these studies, the researchers concluded that achieving public confidence was a major goal of policing organizations. Public confidence is important in the maintenance of order within the communities via the public's cooperation with police instruction and reporting of crimes. It is understood that citizens of a given community desire to feel safe and to have some sort of policing in place. Criminal justice officers provide communities with public safety, which in return allows community members to proceed with normal and everyday activities without a generalized fear of victimization. What is problematic is the rate at which some individuals feel criminal justice personnel should carry out specific duties versus the availability of resources and allotted time to carry out these responsibilities. This notion boils down to resources and budgets.

As previously mentioned, numerous police departments had to lay off dispatchers and other criminal justice staff, leave jobs unfilled, and even layoff police officers (Parlow, 2012). The demand associated with providing public safety has had to be accomplished by fewer people, all while the expectations from the public either remain or increase from times when staffing was more adequate. A shortage of criminal justice personnel added to an abundance of social control enforcement, investigations, and supervision of offenders can cause a large amount of stress (Decker, Varano, and Green, 2007).

Another difference between the criminal justice and other occupations is the adherence to public safety. If criminal justice personnel should have feelings of being overwhelmed to the point in which they cannot carry out their duties effectively, the situation could affect the safety of the community (Violanti et al, 2011; Moon and Jonson, 2012; Gayman and Bradley, 2013; DeMichele and Payne, 2007; Kelty and Gordon, 2015). Criminal justice personnel are given a large responsibility to maintain order within communities. If officers are unable to carry out their duties, then the community is at risk for greater damage. However, if the level of stress is reduced, officers may be able to carry out their duties more effectively and efficiently. In return, the community will experience enhanced levels of public safety and social control.

One aspect that separates criminal justice personnel from a large portion of other occupations, and may be considered an additional stressor, is the different work shifts of criminal justice personnel. (Collins and Gibbs, 2003; Ramey, Perkhounkova, Moon, Budde, Tseng, and Clark, 2012; Rajaratnam et al, 2011; Violanti et al, 2012). These studies focused on the extended or overnight work shifts of police and correctional officers. According to research, working long and overnight hours can increase the chance of being accidentally injured on the job. Long and overnight hours also lead to poor job performance and the development of physical and mental diseases (Ramey et al, 2012; Violanti et al, 2012; Rajaratnam, 2011; Vila, 2006). Furthermore, Vila (2006) suggests long hours and overnight shifts also have an effect on communities that police officers serve. Because of the uniqueness of the role of police officer, as enforcers of the law among other job duties, it is important that their performance while on

duty is maximized. Performance maximization can be difficult when working overnight or when working an abnormal schedule.

The aforementioned research highlights more generalized, on-duty, and job-specific stressors placed upon criminal justice personnel. To grasp the full degree of potential stress placed upon criminal justice personnel, it is important to explore other aspects associated with the criminal justice occupation such as organizational variables. Another source of police officer stress is lack of organizational support (Martinuessen and Richardsen, 2007). Research suggests that not only do external factors have an effect on the stress levels of criminal justice officers, but organizational factors play an important role as well (Maguire and Uchida, 2000; Crank and Giacomazzi, 2009). Indeed, organizational practices appear to have as much if not more of an effect on the stress levels of officers compared to factors associated with specific job duties, such as making arrests, handling emergency situations, and case management (Morash, Haarr, and Kwak 2006; Jonhson, Cooper, Cartwright, Donald, Taylor, and Millet, 2005). Furthermore, studies suggest that these organizational stressors may have significant long-term effects on individual health outcomes compared to other types of stressors related to police officer and correctional officer occupations (Gaines and Jermier, 1983; Brough and Williams, 2007).

Occupational stress and its effect on the officers is very important. One reason is the impact this type of stress can have on the attitudes and opinions of the officers toward the organization (Elias, 2009). In addition, studies also suggest that the result of stress over time has a greater dependency on organizational factors as opposed to external factors related to job duties. The potential impact the organization has on employee stress is important in that it

may be possible to create and implement organizational practices that assist in reducing occupational stress, whereas the actual job specific duties related to the occupation may be more difficult to modify. Attitudes and opinions towards the officer's organization is an important component in relation to officer stress levels. This is because the attitudes and opinions are based on perception of organizational policies and practices.

Not only do the rules and guidelines cause issues for officers, but perceptions of glass ceilings, gender bias, racism, and sexual harassment do as well (Whetstone and Wilson, 1999; Lewis, 1989; Marks, 2000). Research suggests that the quality and type of support structure that surrounds the criminal justice personnel is important, particularly interactions among criminal justice personnel (Forbes, 2010). Forbes (2010) suggests that poor office environment amongst staff may inhibit professional identity and discouragement of carrying out work duties. This suggests that office culture and social interaction are important factors in work stress and productivity. There are many instances in which employees create an office culture not conducive to professional growth and development but conducive to a culture of stagnation and regression (Slate, Wells, and Johnson, 2003; Annison, Eadie, and Knight, 2008; Stephens and Long, 2000; Patterson, 2003; Shane, 2008). Poor interaction between criminal justice staff may be attributable to the lack of support networks within a criminal justice occupation. Studies suggest that a lack of social support within the organization can lead to psychological and health problems of the officers (Armeli, Eisenberger, Fasolo, and Lynch, 1998; Beltran et al, 2009).

The differences in organizational practices across criminal justice offices, such as those between county and state agencies also factor into officer stress. Studies have suggested that the size of the department has an effect on the stress of the officer (Crank and Caldero, 1991; Dantzker, 1994). The unresponsiveness of an organization can have negative effects on the individual officer due to the perceived feeling of helplessness by the officer. This notion derives from organizational support theory in which the relationship between employee and employer must be laced with incentives for both parties in order to maximize productivity and overall well-being (Rhoades and Eisenberger, 2002). Specifically, inattentive supervision is suggested to have an effect on the organizational commitment of the employee (Shoss, Eisenberger, Restubog, and Zagenczyk, 2013). There is value in exploring the idea of inattentive supervision as a separate entity from deviation from positive organizational support. This is because of the propensity of employees to retaliate or become counter-productive, potentially viewing the organizational culture as one that is not supportive and does not care for their well-being (Shoss, Eisenberger, Restubog, and Zagenczyk, 2013). Furthermore, it is suggested that the proper responsiveness of an organization can affect employee perception of organizational support in a positive way. Sufficient organizational support in the workplace can allow for the employee to have a better understanding of rewards and consequences (Cropanzano, Byrne, Bobocel, and Rupp, 2001). The importance of organizational responsiveness as it relates to criminal justice officers is important because perceptions of specific policy developments and decisions can lower or raise the amount of stress placed upon the officers. Research suggests that high organizational support by the management personnel of the organizations can result

in high quality relationships between employees and supervisors, favorable developmental training, experience, and job advancement (Eisenberger, Armeli, Rexwinkel, Lynch, and Rhoades, 2001). Favorable perceptions of organizational support can lead to reciprocal positive outcomes for the organization and workers such as improved individual performance, reduced withdrawal behaviors, and increased organizational commitment (Kurtessis, Eisenberger, Ford, Buffardi, Stewart, and Adis, 2015).

Previous research highlights the importance of maintaining an organization that encourages specific methods of stress reduction (Dantzker, 1994; Elias, 2009). Despite the large amount of information pertaining to stress levels as they relate to criminal justice personnel, most studies have dealt with police officers. A smaller number of studies have focused on correctional officers (Dowden and Tellier, 2004; Gayman and Bradley, 2013). The research of comparable occupations is important in that future studies are able to develop concepts and ideas of probation officer work related stress based on the similarities with other occupations. However, despite the similarities between occupations, there are stark differences that make each one unique. A method to reduce stress in one occupation may not be effective in the other due to the differing needs of respective employees. It is important to study probation officer stress specifically to notate these differences in terms of how they specifically account for making probation officer stress different. It can be argued that probation officers have one of the more stress-causing jobs within the criminal justice field (Whitehead, 1989; Lutze, Johnson, Clear, Latessa, and Slate, 2012). As such, it is important to explore the area and possible causes of probation officer stress.

An overview of Probation

This section will provide an overview of probation in criminal justice. It will consider the American origins of probation as well as the types of theories in which probation derived. This section will provide insight regarding the purpose of probation as well as the type of ideologies that can be held by probation officers.

The ideology of probation can be traced back more than seventy years to a more rehabilitative justice system operating from the late 1800's through the 1930's. In this system, it was believed that offender behavior was a result of psychological, environmental, and biological circumstances (Blomberg and Lucken 2010; Teague, 2011). It was believed probation officers could treat these issues and help integrate offenders back into their communities. In the United States, John Augustus is seen as the "father" of current probation practices (Vanstone, 2004). While Augustus was not the only person practicing an early variation of probation, he may be the most prominent (Petersilia, 1999; Bangasser, 2010). The idea of probation was initially implemented with the strong inclination to rehabilitate via "kindness" and "understanding" (Vanstone, 2004).

Since its adoption in Massachusetts in 1878, the practice of placing individuals on probation gradually grew across the United States. By 1938, 37 states and the District of Columbia adopted some type of Court ordered probation sanction implementation, and by 1965 all states in the United States adopted probation laws (Petersilia, 1998). In the 1960's, there were efforts in place to put offenders back into the community, and with the help of the community, slowly rehabilitate them back to law abiding citizens. As courts adopted probation

sentencing, funding to provide supervision for offenders remained stagnant, so it became more and more difficult for probation officers to appropriately supervise individuals and carry out their duties. It wasn't until 1973 that the National Advisory of Criminal Justice Standards brought national attention to the issue that the probation community was faced with. Overall, there still is much diversity between different types of probation and across different counties and states (Schwalbe, 2012).

The goal of probation generally is to provide offender surveillance and accountability, coupled with rehabilitation while avoiding incarceration (Pew Center on the States, 2007). Probation agencies seek to create and maintain a more cost-effective and efficient way to supervise offenders, while providing the appropriate services to them. Initially, probation was used for offenders considered to be at low-risks to reoffend (DeMichele and Payne, 2007). More recently, however, higher risk offenders have been placed on probation (Phelps, 2013).

There are numerous penal theories tied to probation including "just deserts" theory, deterrence theory, and restorative justice. Exploring these theories can be beneficial in obtaining a better understanding of probation ideologies and practices implemented today. The "just deserts" aspect of probation emphasizes its punitive nature. As with incarceration, the offender's freedom is restricted, although not quite as severe. The restrictive nature of sanctions, such as house arrest and/or GPS monitoring, limits an offender's freedom because of their convicted offense.

The probation experience, with its restrictions on freedom, is structured so that the individual will want to avoid this type of consequence in the future, and hence is compatible

with deterrence theory. Deterrence in the form of probation also occurs if the offender fails to abide by the court ordered restrictions placed upon them by the court. If an offender violates the terms of their probation, the possibility of harsher restrictions and additional sanctions, including incarceration, could follow. Therefore, the use of probation as a deterrent has its merit.

Restorative justice theory plays a role in probation in that probationers are encouraged to repair their relationships with individual(s) that they have negatively affected. Apology letters and mediation between victims and offenders are examples of the use of restorative justice theory in probation. Research suggests this component of probation may be the most useful and effective in keeping the community safe while reducing recidivism (Howell, 2003; Lane, Turner, Fain, and Sehgal, 2007). The utilization and frequency of the theories are dependent on the type of probation and laws that govern the specific area.

It is important to note the potential differences in the types of probation officers, because probation officer ideologies may play a factor into levels of perceived stress. Mawby and Worrall (2013) highlighted two career categories that probation officers fall into: lifers and second careerists. Lifers are essentially those probation officers who view their work as a lifelong commitment. In essence, these probation officers start their career early in life and are intent on remaining involved in some type of probation officer role until they retire. In many of the instances studied by Mawby and Worrall (2013), lifers entered college with the goal of having a career in criminal justice or some type of career helping others.

The second type of probation officer discussed is the second careerists. These probation officers had previous careers. Many of the individuals studied came from police and/or military backgrounds. Additionally, many of the second careerists came from health and social work occupations as well. The two ways in which the probation officers enter the realm of probation work is important regarding levels of stress. It is suggested that the length of time a probation works at a particular agency, the type of position held, and the career length of a probation officer all factor into the amount of perceived stress felt by the individual probation officer (Slate, Wells, and Johnson, 2003; Lutze, 2014).

Probation officers also have been described as differing in terms of supervision strategies (Lutze, 2014). Lutze identified these different strategies as: law enforcement, social work, and case manager or broker. As the term implies, those who lean toward a more law enforcement style of offender supervision focus more on the punishment of offenders and prioritize keeping the community safe by means of crime control. Probation officers who are law enforcement oriented are more likely to arrest probation offenders and recommend harsher sentences for infractions. Social work oriented probation officers focus more on rehabilitation via referrals for services such as drug offender rehabilitation and mental health counseling. Probation officers who are best described as case managers are said to fall in the middle of the law enforcement style and social work style probation officers.

A study by Ricks and Loudon (2015), suggests that the type of supervision strategy can determine the level of leniency given to probationers who violate the terms of their probation multiple times. The research is important because it examines the extent to which probation

officer supervision styles determine their decision making. White et al (2015) took the finding on styles of supervision a step further and explored whether the differences in supervision strategies had an effect on probation officer stress. The findings suggest that those probation officers who feel as if they were more social work oriented experience higher levels of stress. It is suggested that the reasoning behind these findings may be due to a higher emotional investment by the probation officer. These findings coincide with other studies suggesting that greater personal involvement with those on probation increased the likelihood of perceived probation officer stress (Tabor, 1987; Lutze, 2014). Additionally, the type of probation officer ideology also factors into how the management in caseloads is handled. Those with a more law enforcement styled or social work styled approach may experience higher levels of stress than those who have a more case management or broker styled approach (Simmons et al, 1997). The findings are important in helping determine the causes of perceived stress and perceived productivity among probation officers. This is because of the potential for those probation officers who are more emotionally invested to incur higher levels of stress, and thus they could potentially be subject to a higher likelihood of reduced health, which can lead to lower levels of productivity.

External Sources of Probation Officer Stress

In this section, we will consider the external sources of probation officer stress. That is, the sources of stress mostly related to job duties. Specifically, we will discuss the monitoring of offenders, adherence to court-ordered sanctions, and the influence of the court. In the end, we

will conclude that probation officers have many external sources of stress which are mostly out of the control of the officer.

A probation officer experiences many of the same job stressors of other types of criminal justice personnel, which includes the victimization risks associated with being a probation officer (Petrillo, 2007; Slate, Wells, and Johnson, 2003; Finn and Kuck 2005;). The role of a probation officer is essentially to supervise offenders in the community. Along with the tasks of supervising probationers in the community comes potential danger. Probation officers are often tasked with supervising offenders by visiting their home and places of employment. There are many instances where probation officers are required to supervise individuals with lengthy criminal histories, many of whom are violent offenders. Moreover, many probationers reside in what may be considered dangerous residential areas, and probation officers are required to visit these areas with relative frequency. Finn and Kuck (2005) find that more than 50 percent of probation officers experienced some type of workplace violence.

Not only do probation officers have the responsibility of monitoring the offenders in the community, but they are also given the responsibilities of ensuring that offenders are abiding by their court-ordered sanctions and providing the offenders with referrals for treatments. This is a unique situation amongst criminal justice personnel where probation officer duties are akin to having two distinct jobs. Probation officers not only act as social control and public safety officers but also as a type of social worker. It is important to consider the multiple roles and accompanying job demands placed on probation officers when examining their occupational stress.

If a probation officer has a relatively high number of clients on their caseload, making the appropriate contacts with these individuals can be exceedingly difficult. This potential for lack of supervision provides more chances for the individual to commit offenses within the community. The limited amount of resources compounds the situation by continuing to a higher likelihood of offender recidivism within the community. Regardless of resources or lack thereof, probation officers are still held accountable by their respective organizations to monitor and refer offenders for services, despite potential limitations in their ability to execute their duties effectively. If there are too large a number of probationers and/or a limited amount of resources, then it can become extremely difficult to accomplish either goal. Having to adhere to organizational standards while lacking sufficient resources can create a stressful environment for probation officers. Studies suggest that an increase in probationers relative to probation officers is occurring, along with a lack of sufficient services to these probationers (DeMichele and Payne, 2007; Mair, Burke, and Taylor, 2006). As a benchmark, we can compare the appropriate caseload per probation officer to the average amount of probationers each probation officer is actually supervising. In many instances, probation officers are supervising more than double the acceptable amount of probationers on their caseloads (DeMichele and Payne, 2007). Research also has suggested that there are a limited number of appropriate resources in relation to the specific needs of the probationers. These resources can make probation officer's work more difficult.

Not only do case numbers and limited resources affect probation officer stress, but so can the enforcement of court-ordered sanctions. Probation officers are responsible for ensuring

that offenders are carrying out certain mandates ordered by the court (Smith, Rodriguez, and Zatz, 2009). Studies suggest that court decisions have been identified as a stressor of probation officers (Whisler, 1994; Owens, 2012; Riger, Bennett, and Sigurvindottir, 2014). Court rulings can cause probation officers stress in multiple ways. First, a court ruling may cause stress on probation officers if it conflicts with specific recommendations made by the probation officer, whether it be for sentencing or treatment purposes. This may cause the probation officer to feel as though his or her recommendations and suggestions are of no use. The probation officer has more contact with the probationer than the judge, defense attorney, and prosecuting attorney, and very likely knows the probationer the best. Therefore, when the court goes against an officer's recommendation, the probation officer may feel as though there is no point in providing the best, in-depth information, which could lead to a situation where the fate and safety of the community are not being given adequate attention. Differing court outlooks may affect a probation officer's balance between the social work and public safety aspects of probation officer work. At some point, it may become difficult for probation officers to use their own judgment as to when rehabilitative strategies or punitive strategies are more appropriate. Therefore, the feeling of being marginalized can become increasingly stressful for probation officers.

The aforementioned circumstances of high caseloads, mounting paperwork, pressing deadlines, and differing court opinions provide a significant amount of stress for probation officers. Unfortunately, these variables are often largely out of the control of the agency and the probation officer. Alleviating these sources of stress often is not practical. We can look to

uncover other areas of stress that are more fungible. Doing so may reduce stress and increase productivity and health among probation officers.

Sources of Probation Officer Stress Within the Organization

In this section, we will explore organizational factors associated with probation officer stress. Specifically, we will explore the impact that manager and supervisor influence have on probation officer stress as well as role ambiguity, ancillary tasks, and office culture. Probation officer intrinsic variables are also discussed. We will conclude that sources of stress within the organization have the best chance of being altered and can potentially reduce levels of probation officer stress and improve productivity.

High caseloads and resulting limitations on appropriately supervising offenders is associated with perceived stress among probation officers (Lutze, 2014). Another large contributor to probation officer stress is organizational practices, along with the transparency and communicative efforts of the probation agencies managers and supervisors. Furthermore, some probation officers blame the ever-changing policy landscape of their probation agencies as inhibitors to adequate offender supervision, offender recidivism, and general public safety (DeMichele and Payne, 2012). Additionally, the disconnect between probation management and the probation officers, as well as the general objection to supervisory practices are major influences in the perceived stress of the probation officers (Finn and Kuck, 2005; Lutze, 2014).

Lutze offers examples of what probation officers perceived as far-fetched and unrealistic ideologies from management personnel who generally lack plans for implementation of such goals. Lutze (2014), provides some evidence for a disconnect between probation management

and the probation officer. The idea of taking orders and directives from individuals who are not generally aware of what is occurring out in the field of work can cause the probation officers to have feelings of resentment and overall dissatisfaction. Studies by White et al (2005), Lewis, Lewis, and Garby (2013), and White et al (2015) argue that the workplace stress of probation officers derives largely from organizational practices rather than actual supervision of offenders. These studies highlight the importance of exploring organizational practices and policies as they relate to the stressors and overall productivity of probation officers. Specifically, the study by White et al (2015) suggests that organizational practices can lead to higher levels of stress, reduced job performance, and reduce levels of probationer supervision.

Another potential cause of probation officer stress from within the organization is role ambiguity. Role ambiguity occurs when officer training involves ill-defined roles, missions, and goals that are forced upon probation officers (Allard, Wortley, Stewart, 2003). Research suggests that a large portion of probation officers do not see their training as adequately preparing them for the tasks and responsibilities associated with performing their necessary duties (Treadwell, 2006; Dominey, 2010). Thus, probation officers are given tasks to accomplish goals without a true or clear understanding of what the goals are (Whitehead, 1989).

Prior research has suggested that intrinsic motivation is an important factor in the overall perception of stress by a probation officer (Deci and Ryan, 2000; Bangasser, 2010). That is, the extent to which the daily activities and duties of a probation officer do not contribute to their own personal satisfaction may affect stress levels (Bangasser, 2010). Organizational components, which are related to worker satisfaction, could affect intrinsic motivation. Further

research is needed to help determine the effects of organizational arrangements on probation officer intrinsic motivations. Higher intrinsic motivation could lead to an increase in probation officer self-esteem, which may lead to improved health, which could potentially lead to a reduction in probation officer stress.

Administrative support is another important factor in occupational stress (Brough and Frame, 2004; Jurik and Winn, 1897). Several studies suggest that administrative support is essential for avoiding higher levels of employee stress (Hayton, Carnabuci, and Eisenberger, 2012; Kim, 2012; Finn and Kuck, 2005; Gayman and Bradley, 2013; Slate, Wells, and Johnson, 2003; Liaw, Chi, and Chuang, 2010; Eder and Eisenberger, 2008). Additionally, administrative support is essential for employees to feel as though they have the ability to grow and advance within their careers (George, Chattopadhyay, and Zhang, 2012). Research has suggested that administrative support in relation to the employee's feelings about conflict ambiguity and overload may be very effective, especially in areas such as criminal justice (Slate et al., 2001; Bangasser, 2010). Organizational and administrative support is essential in having and keeping successful employees (Liaw, Chi, Chuang, 2010). Moreover, research has suggested that employees develop heightened perceptions of organizational support when their perceived value to the organization increases (Eder and Eisenberger, 2008). Administration and organizational support are directly linked to employee lateness, absenteeism, engaging in non-work related activities while at work and turnover (Allen, Shore, and Griffeth, 2003; Allen et al., 2003; Rhoades and Eisenberger, 2002).

Studies suggest that some probation officers associate a failure to meet their job expectations with lack of one-on-one contact with their probationers (Annison, Eadie, Knight, 2008; Forbes, 2010). Additionally, Annison, Eadie, and Knight (2008) suggest that there are many probation officers who feel as though their jobs are more about case management and administrative rules rather than actual offender rehabilitation and/or public safety. For example, a probation administration may want to increase the amount of supervision a specific type of offender receives on a monthly basis. The idea of increased offender supervision in itself may be good and can help increase public safety in the community. However, if the probation office is under-staffed, then the administration is asking resource-limited probation officers to supervise a specific number of offenders at a more frequent rate. These additional responsibilities take away from the probation officers' other responsibilities, including ensuring that all probationers are completing their court-ordered sanctions. It is critical for those responsible for the public's safety to feel as though their work is having an effect on everyday life and the community's well-being. Otherwise, the probation officer may begin to feel as though their work is robotic and ineffective, which can lead to higher levels of stress.

Another factor that plays a role in probation officer stress is the culture of the office, or the way in which employees are instructed to behave in the workplace, formally and informally (Getahun, Sims, and Hummer, 2008). Work culture research suggests there is great importance in the quality and type of support structure that surrounds the probation officers (Forbes, 2010). Forbes (2010) suggests that poor office environment may inhibit professional identity and discourage the carrying out probation officer duties to the fullest extent. This notion

suggests that office culture is important in probation officer stress, health, and productivity. There are many instances in the probation office culture where actions are not conducive to professional growth and development, but rather contribute to a culture of stagnation and regression (Slate, Wells, and Johnson, 2003; Annison, Eadie, and Knight, 2008). This situation may not be intentional. The probation office administration often has the responsibility of dealing with higher authorities such as mayors, governors and judges, secretaries, the public, and other stakeholders. Therefore, there may be so much responsibility and pressure placed on probation office managers that items such as professional development of probation officers gets overlooked. Further research regarding the feelings of probation officers towards the culture of the probation office and administration is needed in order to determine whether new methods and ideas of administration-probation officer relationship are needed. An improved relationship between administration and probation officers could potentially lead to reduced levels of stress, improved health, and more productivity (Finn and Kuck, 2005; Slate, Wells, and Johnson, 2003).

Probation officer individuals characteristics in relation to stress have been documented in research (Bourgon and Gutierrez, 2012; Leiber and Brubaker, 2010). These studies have suggested that the number of years working as a probation officer, gender, and age all have an effect on the amount of perceived stress of a probation officer. While these areas are important in researching the types of officers who may be more prone to increased stress, not all areas of individual characteristics have been explored. Personal dispositions and ideologies are thought to have an increasing role in the productivity and effectiveness of probation

officers (Forbes, 2010; Vanstone, 2004). An example of the personal ideologies of probation officers would be crime control or offender/treatment preferences. That is, does a particular probation officer place more emphasis on incarceration or rehabilitation of the probationer? It is suggested that the ideas and values associated with the probation officer may predict the success and stability the probation officer will have. The research conducted in these studies was of a qualitative nature, relying on examination of the participants in their environment (Forbes, 2010; Vanstone, 2004). Further research should be completed using quantitative methods to explore the extent to which organizational variable affect probation officer stress, health, and productivity. Additionally, more research is needed to help determine whether intrinsic values such as mere enjoyment of the activity, influence stress reduction. Despite the relevance of intrinsic values and their role in stress, health, productivity and effective probation officers, there has been limited research exploring the area.

Effort-Reward Imbalance Model

The Effort-Reward Imbalance (ERI) model explores the extent to which job conditions and rewards influence the health and productivity of employees. The model measures variables related to job conditions, rewards, and efforts. Johannes Siegrist (1989, 1996) developed the model as an indicator of job stress. Specifically, the model predicts that when the amount of reward received does not equal the amount of effort given, emotional and psychological stress is likely to occur. The effort-reward imbalance model can be considered a measure of individual work-stress via job specific variables as well as employee personal characteristics (Vrijkotte, Doornen, and Geus, 1999; Feldt, Makkangas, Rantanen, and Huhtala, 2016).

The Effort-Reward Imbalance model is based on the concepts of social roles, self-efficacy, and self-esteem (Tsutsumi and Kawakami, 2004). According to Siegrist (1996), the imbalance of social roles, self-esteem, and self-efficacy can lead to work stress. This work stress may lead to serious health conditions such as high blood pressure, coronary heart disease, and stroke (Vegchel, Jonge, Bosma, and Schaufeli, 2005; Gilbert-Ouimet, Brisson, Vezina, Milot, and Blanchette, 2012).

In the ERI model, rewards can be defined using variables such as income, esteem, prestige, and career advancement opportunities (Leineweber, Wege, Westerlund, Theorell, Wahrendorf, and Siegrist, 2010; Griep, Rotenberg, Vasconcellos, Landsbergis, Comaru, Alves, 2009; Kinamn and Jones, 2008). Previous literature has suggested that the rewards, specifically the perceived lack thereof, can indicate stress among employees and potentially affect work productivity (Burchett, Willoughby, 2004; Wainwright and Calnan, 2002; Chepkwony and Oloko, 2014).

Siegrist (2001) suggested that effort could be described as the employee's response to the demands placed on them by their occupational duties. Examples include workload, work responsibility, work interruptions, overtime, and peripheral work obligations. Ideally, these effort variables are reciprocated by perceptions of adequate reward (Feldt, Makikangas, Huhtala, and Kinnunen, 2016). When an employee's perception of rewards and efforts are not in proportion to one another, an effort-reward imbalance occurs. Previous research utilizing the ERI model has suggested that individuals with an effort-reward imbalance are subject to higher levels of job stress and reduced health (Siegrist, 1996; Vegchel, Jonge, Bosma, and Schaufeli,

2005). According to ERI theory, when rewards fail to match efforts negative emotions regarding the work environment, leading to adverse physical and mental health conditions follow (Feldt, Hyvonen, Makikangas, Huhtala, and Kinnunen, 2016). Furthermore, the effort and reward constructs are determinants of job stress when used independently.

The effort-reward imbalance model also explores individual intrinsic variables via the concept of overcommitment. Overcommitment can be thought of as the attitudes and behaviors that reflect excessive endeavors and a strong desire for approval and recognition (Tsutsumi and Kawakami, 2004). The concept of overcommitment is often operationalized as "need for control and approval" (Tsutsumi and Kawakami, 2004; Kinman and Jones, 2008; Feldt, Hyvonen, Makikangas, Huhtala, and Kinnunen, 2016). This situation can be characterized as an exhibition of specific cognitive and motivational patterns described by excessive work-related commitment (Siegrist, 2012; Vegchel et al., 2005). Additionally, intrinsic factors are also measured by an individual's work competitiveness, disproportionate irritability, and inability to withdraw from work (Siegrist, 1996). Siegrist further suggests that overcommitment is independent of effort and reward because an effort-rewards imbalance isn't required for an individual to be considered overly committed to their work. Previous research suggests that the concept of overcommitment emphasized in the effort-reward imbalance model may lead to negative health effects both physically and mentally (Siegrist, 2001; Siegrist, 1996; and Tsutsumi and Kawakami, 2004; Kinman and Jones, 2008; Weyers et al., 2006; Garza, et al.; 2015; Avanzi, Zaniboni, Balducci, and Fraccaroli, 2014).

Over time, the effort-reward imbalance model has been given increased attention by researchers (Kinman and Jones, 2007; Feldt, Hyvonen, Rantanen, Huhtala, and Kinnunen, 2016). The model is said to incorporate differences between individuals within and between different occupations (Vegchel, Jonge, Bosma, Schaufeli, 2005; Gilbert-Ouimet, Brisson, Vezina, Milot, Blanchette, 2012). Another possible reason for increased usage is that the effort-reward imbalance model recognizes the importance of the rewards in terms of how they can affect the well-being of the individual. Siegrist (2001) suggests that approximately forty percent of the working population have some degree of effort-reward imbalance. This conclusion is based on a limited number of occupations studied. Therefore, the percentage of employees in various occupations with some level of effort-reward imbalance could be lower or higher.

Prior research using the ERI model has suggested that improvement in the workplace is associated with extrinsic benefits such as an even distribution of workload and secure/sufficient rest periods, esteem, job security, and career opportunities (Tsutsumi and Kawakami, 2004). Additionally, the workplace can be improved by intrinsic rewards, such as praise for good work and the development of interpersonal relationships and social skills. (Tsutsumi and Kawakami, 2004). Together, these intrinsic and extrinsic reward factors help formulate the general effort-reward imbalance hypotheses. The first hypothesis theorizes that an imbalance between high demands and obligations and low extrinsic rewards increases the likelihood of increased job stress and poor health. The second hypothesis involves the concept of overcommitment, which is related to intrinsic motivations, and theorizes that a high level of need of control/need for approval increases the likelihood of increased job stress and poor health.



Figure 1. The Effort-Reward Imbalance Model

A large number of studies have explored the Effort-Reward Imbalance model (Vegchel, Jonge, Bosma, and Schaufeli, 2005; Peter, Siegrist, Stork, Mann, and Labrot, 1991; Siegrist, Peter, Georg, Cremer, and Seidel, 1991). Many of the studies have examined the physical health of the individuals. Specifically, the study conducted by Kuper, Singh-Manoux, Siegrist, and Marmot (2002) explored the relation of Effort-Reward Imbalance to work stress and heart rate variability. The results of the study found a positive correlation between high effort with low reward and coronary heart disease.

Additionally, occupational stress has been explored by researchers using the effort-reward imbalance model. Studies examining occupational stress are based on participants primarily from the private sector and health care fields (Derycke et al, 2010; Schreuder et al,

2010; Jolie et al, 2009; Herin, et al, 2011; Vegchel, Jonge, Bosmar, Schaufelli, 2005). The results of the studies suggest there is a correlation between effort-reward imbalance and well-being. Specifically, the majority of research suggests that the combination of high effort and low reward leads to poor employee health, physically, emotionally, and psychologically. The studies further illustrate the importance of the effort-reward imbalance model, not only in studying occupational stressors in relation to physical well-being, but in measuring psychological stressors as well. The studies also point to a need to explore other occupational areas in order to further determine the applicability of the effort-reward imbalance, especially high-stress occupations that have high psychological stress. (See Table 1).

Table 1. The number of studies in the review sorted by hypothesis and outcome category

Outcome category	Total (n=59)	ERI hypothesis			OVC hypothesis	Interaction hypothesis
		All ₁	Extrinsic effort ₂	Remaining ₃		
Physical health outcomes						
Cardiovascular disease incidence	8	8	5	3	5	1
Cardiovascular symptoms and risk factors	18	15	13	2	11	3
Other outcomes	8	4	2	1	2	3
Behavioral outcomes						
Behavioral outcomes	7	5	3	0	2	1
Psychological well-being						
(Psycho)somatic health symptoms	17	16	13	3	7	3
Job related well-being	15	9	8	0	4	7

*Note that many studies included several different outcomes and therefore are counted more than once.

₁All studies that tested the ERI hypothesis.

₂Only studies that tested the ERI hypothesis with extrinsic effort and reward.

₃ Remaining studies that tested the ERI hypothesis at least with intrinsic efforts and rewards.

As the ERI model developed over time, several studies worked to designate specific "cut-off" points where an individual's effort-reward ratio and overcommitment may be deemed as unhealthy (Magnavita, Garbarino, and Siegrist, 2012; Niedhammer, Tek, Starke, and Siegrist, 2004; Siegrist et al, 2004). Many authors, however, consider such cutoff points to be arbitrary and potentially invalid (Preckel, Meinal, Kudielka, Haug, and Fischer, 2007; Vegchel; 2005). A recent study helps to show the difficulty in determining a cutoff point for ERI type studies. Lehr, Koch, Hillert (2010) attempted to study potential ERI cutoff points in order to identify individuals who could be deemed as healthy versus unhealthy. In their study, they found using a mathematical cutoff point for ERI could potentially undervalue or overvalue specific responses. Furthermore, the researchers found that there is a discrepancy between the mathematical operationalization of balance and what the participants own perceptions of balance were (Lehr, Koch, and Hillert, 2010). The research by Lehr et al. (2010) implies that there could be endless debate regarding a proper ERI cut-off, as there are numerous studies with different cutoff points other than that of Siegrist's, Vegchel, de Jonge, and Landsbergis (2005). Despite the noted limitations, this study will utilize a cutoff point.

Current research has focused on the ERI model in relation to cardiovascular health. The effects of the effort-reward imbalance on these other health outcomes are less clear, although the idea that effort-reward imbalance has an effect on health outcomes such as mental disorders and psychological illness is growing and gaining research support (Stansfeld and Candy, 2006; Kivimaki, Vahtera, Elovainio, Virtanen, Siegrist, 2007). These findings suggest

that more research is necessary to determine the extent to which effort-reward imbalance influences overall health.

Studies suggest that one of the more important but neglected areas of organizational study is understanding of the causes, characteristics, and consequences of emotions in the workplace (Brief and Weiss, 2002; Smith and Calasanti, 2005). Many studies are supportive of the idea that health and effort-reward imbalance are related (Kinnunen, Feldt, and Makikangas, 2008; Siegrist et al, 2004; Taris, Schaufeli, and Verhoeven; 2005). Higher employee stress also has the potential to cause lower levels of productivity (Ansari, Malekia, Mazraeh, 2013). A study by Bakker, Killmer, Siegrist, and Schaufeli, (2000) explored the potential for higher levels of stress based on two predictive core dimensions: depression and emotional exhaustion. The study concludes that low extrinsic rewards are associated with less productivity. Much research associated with job stress has shown that higher levels of stress may cause withdrawal from the organization and lead to inappropriate behaviors (Leiter and Maslach, 2008). Furthermore, the studies have found that many participants with high-stress related behaviors displayed lower levels of work commitment and more counterproductive behaviors (Leiter and Maslach, 2008; Cole, Walter, Bedeian, and O'Boyle, 2012; Bakker, Demerouti, and Sanz-Vergel, 2014; Schaufeli et al, 2009). These are important findings in that they directly link the effort-reward imbalance model with employee productivity. Productivity, or the functioning level of a worker in terms of quantity or quality of work performed (Allred, 2012; Evans, 2004; von Thiele Schwarz and Hasson, 2011), is important in that work output can potentially be increased if levels of production are sustained with fewer resources utilized (Schwarz and Hasson, 2011). Based on

this research, we may hypothesize that if an individual with higher a effort-reward imbalance ratio may also have a lower levels of work output.

One may argue that a discrepancy between the distributive justice of the organization (positive feedback, promotion, acknowledgment, etc.) and the inputs of the employee (skills, training, effort), result in inequity. Studies suggest that if inequity occurs, then employees will default to deviant workplace behaviors (Rogojan, 2009; Ansari, Maleki, Mazraeh, and Arab-Khazaeli, 2013; Anjum and Parvez, 2013). Additionally, Shoss et al. (2013) suggest that employees who perceive organizational policy and procedures as fair and/or supportive are less likely to engaging in unproductive behaviors. From these findings, we may hypothesize that the effort-reward imbalance theory can help explain lower levels of productivity within an organization. This is important because this research is attempting to determine employee's self-perception of output and productivity as they relate to perceptions of organizational reward.

Studies have questioned the extent of difference between the ERI model and the Demand Control Model (Kivimaki et al., 2007; Li, Yang, Cho, 2006; Calnan, Wadsworth, May Smith, Wainwright, 2004). The Demand Control Model suggests that level of skill in combination with amount of influence within the organization can affect the level of job stress the individual encounters (Rodriguez, Bravo, and Peiro, 2001). The studies suggest that the ERI model, independent of variables, can be a strong predictor of perceived health outcomes (Kivimaki et al., 2007; Lia, Yang, Cho, 2006; Calnan, Wadsworth, May Smith, Wainwright, 2004).

While the ERI model may be similar to organizational injustice, as well as other work stress models, the ERI is different in that esteem is weighted against efforts. That is, the esteem part of the reward portion of the ERI is used negatively, so that one may be able to determine the extent an individual's intrinsic motivations factor into their health and/or well-being.

The organizational injustice models explore non-conditional ways of being treated, such as employer bias and unfairness (Kivimaki et al., 2007). Furthermore, another difference is that the ERI model is concerned with exploring the relationships between workplace constraints and opportunities versus personal need satisfaction. The ERI model makes a distinction between intrinsic and extrinsic efforts, and it can be argued that doing this provides a more sensitive indicator of stress. Again, the ERI model can be completely independent of any organizational injustice model and produce independent findings. There have also been a number of cross-sectional designs with the ERI model and the Demand Control-Support model which suggests that a psychological work environment can be described via a combination of job demands and one's perception of job control (Kuper et al., 2002; Stansfeld, Bosma, Hemingway, Marmot, 1998; Mein et al, 2000; de Lange, Taris, Kompier, Houtman, and Bongers, 2003). These studies suggest the ERI model may be a powerful predictor of stress in service occupations, especially those dealing with person-based interaction, such as criminal justice professionals.

Studies have led to changes to the ERI model over time (Leinweber et al., 2010; Siegrist et al., 2009). Initially, the ERI model gathered information from different sources, such as contextual information using both interviews and questionnaires. Subsequently, a questionnaire was developed to measure all the components of the ERI together. When using

the questionnaire, researchers often found difficulty in reproducing the results of previous studies. Therefore, a shorter version of the questionnaire was created. The objective was to represent overcommitment by attempting to determine an individual's inability to withdraw from work and unbalanced proportions of irritability. Researchers found the short version of the ERI to have satisfactory psychometric properties and appropriately represent the theoretical structure of the ERI model (Siegrist, Wege, and Puhhofer, 2009; Leineweber et al, 2010).

There have been numerous studies conducted in order to explore the validity and reliability of the effort-reward imbalance model (Tsutsumi and Kawakami, 2004; Vegchel, Jonge, Bosma, and Schaufeli, 2005; Tsutsumi, Nagami, Morimoto, and Matoba, 2002; Kinnunen, Feldt, and Makikangas, 2008; Zurlo, Pes, and Siegrist, 2010). The findings suggest that the effort-reward imbalance questionnaire is a suitable to in gauging levels of perceived effort, reward, and overcommitment.

Current Effort-Reward Imbalance research is important in that the research suggests a causal link between work-related stress and health and productivity (Zurlo, Pes, Siegrist, 2010; Kinnunen, Feldt, and Makikangas, 2008; Vegchel, Jonge, Bosma, and Schaufeli, 2005; Li, Yang, and Cho, 2006; Calnan, Wadsworth, May, Smith, and Wainwright, 2004; Niedhammer, Tek, Starke, and Siegrist, 2004). The research could be used to help determine methods of stress reduction as it relates to physical and mental health. By using the ERI it may be possible to identify occupations where individuals feel the most stressed. Once identified, future research can target those specific occupations and identify means of stress reduction in the attempt to

improve the physical health of employees. If employee health improves, it is possible that the organization will become more efficient and execute its goals more effectively (Zhang, Bansback, and Anis, 2011; Braathen, Veiersted, and Heggenes, 2007).

There is little research on the ERI model regarding perceived physical health of employees. As mentioned previously, most studies related to ERI have focused on the heart and /or circulatory system (Vegchel, Jonge, Bosma, and Schaufei, 2005; Siegrist, 2012). However, the studies are limited in that they do not take into account any other physical ailments. Furthermore, there is limited research that utilizes the ERI model while studying perceived mental health of employees. The majority of effort-reward imbalance studies have been conducted in Europe, with a minimal number conducted in the United States (Krause, Rugulies, Maslach, 2010). This study, in particular, will help assist in future research by helping determine the value of using the effort-reward imbalance model as a theoretical guide for studies involving criminal justice personnel. If the effort-reward imbalance model helps to identify elements associated with stress caused by organizational variables, then it is also possible to explore the extent to which these organizational factors impact both the perceived mental and physical health of the employees. Furthermore, this study can assist in determining whether the effort-reward imbalance model is a viable tool for use in the United States occupational culture.

Prior studies have also failed to investigate high-level stress jobs, such as those in the criminal justice system. For example, probation officers have a high level of mental demands such as caseload maintenance and interoffice relationships, along with high physical demands

such as conducting arrests, firearm usage, defensive tactics and potential physical assault from probationers (Arola and Lawrence, 1999; Roscoe, Duffee, Rivera, and Smith, 2007). If the effort-reward model is applicable to such a high-stress job, then perhaps it can be used for other high-stress level jobs, as well. Research suggests that frontline criminal justice personnel have factors that weigh heavily on mental as well as physical strain. As a member of the criminal justice family, probation officers are subject to those same mental and physical factors associated with high levels of stress. Moreover, organizational factors could be a large contributor to physical and mental stress in the field.

The purpose of this research is to add to the current literature as it relates to occupational stress, indicators of occupational stress, and how they affect stressful occupations. Specifically, the study adds to the relatively small amount of literature related to stress as it relates to probation officers. The Effort-Reward Imbalance model provides a theoretical framework for use in this study. The model predicts that individuals with appropriate effort-reward ratios are likely to be more effective in executing their responsibilities compared to individuals who have high effort-low reward ratios.

The study will focus on the following concepts: effort-reward imbalance, overcommitment, self-rated health, and perceived productivity. According to previous studies, effort-reward imbalance has a high level of predictive validity (Tsutsumi and Kawakami, 2004; Leineweber et al, 2010; De Jonge et al, 2008). Many of the studies that used the effort-reward imbalance model suggest that there is a causal relationship between high efforts and low rewards and adverse health issues. Previous research also suggests that the effort-reward

imbalance is applicable to a wide range of occupations (Semabgwe, Wahrendorf, Siegrist, Sitta, Zins, Goldberg, and Berkman, 2012). Previous studies have explored adverse health effects of nurses, construction workers, and other types of white collar and blue collar occupations (Gilbert-Ouimet, Brisson, Vezina, Milot, and Blanchette, 2012). Many of the studies using the effort-reward imbalance model utilize relatively small sample sizes (Stansfeld, Head, Marmot, 2000; Bosma, Peter, Siegrist, Marmot, 1998).

Importance of this study

There has been minimal research exploring stress regarding probation officers. With budgets shrinking or remaining stagnant across states, cities, and counties (Martin, Levey, and Cawley, 2012; McNichol, Oliff, and Johnson, 2011; Gale, 2015; Lutze, 2014), it is unlikely that significant monetary compensation will increase alongside the ever growing work demands of probation officers. Therefore, it is essential to explore probation organizations and how they relate to the demands placed on probation officers. Without further investigation into organizational stressors placed on probation officers, there is an increased likelihood of probation officer stress, decreased health and lack of productivity, which could lead to poor supervision of offenders in the community, an increase in government spending due to growing incarceration of offenders placed back into correctional facilities, and increased spending due to constant hiring and/or terminations due to poor performance. Additionally, this research could assist in developing ways in which probation officers and criminal justice organization, in general, can function more efficiently and effectively in order to provide the most support and maintain the utmost well-being for their officers and the community

Theoretical Construct

Within the limited amount of research regarding perceived probation officer stress, health, and productivity and the related influences of the probation organization, studies have suggested that positive organizational support can help tremendously in attemptst to avoid employee stress, and counter-productivity (Riggle, Edmondson, Hansen, 2009). Therefore, it can be surmised that probation officers who perceive their organizations as more rewarding are more likely to be more productive in carrying out their probation officer duties. Furthermore, organizational factors may also be associated with employee health. This nexus suggests that employee health may be affected by perceived organizational support. Additionally, there are several stress-inducing variables associated with probation officer work such as violence against probation officers, caseload amounts, and adequate supervision of probationers, many of which can develop into serious physical and mental ailments if not treated. As discussed in the literature review, the effort-reward imbalance model (Siegrist, 1996) is applicable to this study in that it is designed to measure job stress as it relates to productivity and rewards. The effort-reward imbalance model suggests that failed reciprocity regarding high efforts and low rewards is likely to elicit negative emotions and sustained stress responses in exposed individuals. Furthermore, positive perceptions of work may be promoted by appropriate social rewards, which then may promote health and productivity (Dusseldorf, 2008).

Previous research utilizing the effort-reward imbalance model have suggested that there is a strong correlation between work-related stress and the health of the employee (Stansfeld, Head, Marmot, 2000; Bosma, Peter, Siegrist, Marmot, 1998; Tsutsumi and

Kawakami, 2004; Leineweber et al, 2010; De Jonge et al, 2008). That is, there is a strong relationship between the amount of work effort exerted by the employee and the amount or type of reward given by the employer. The effort-reward imbalance model has been utilized across a wide range of professions in many different countries. However, there has been limited research applying the effort-reward imbalance model to criminal justice personnel and probation officers specifically.

Despite the limited research, the existent research on other professions that suggests specific attributes of an individual can be used to determine how well an individual is able to cope with work/administrative stressors and whether those work/administrative variables have a positive or negative impact on the health of the individual depending on coping abilities. Using this research leads to the creation of variables designed to capture the various constructs necessary to apply the effort-reward imbalance model and its relation to health outcomes. It also guides this study to the following research questions and hypotheses:

1. Do perceptions of rewards, such as perceptions of management effectiveness, perceptions of respect in the workplace, perception of job prospects, etc. have an effect on probation officer productivity (work ability, quality of work, and quantity of work)?
H₀: Perceptions of low reward are positively correlated with the reporting of perceived low productivity among probation officers.
2. Do perceptions of effort and reward have an effect on overcommitment?
H₀: An imbalance between high effort and low reward increases probation officer overcommitment.
3. Does overcommitment affect perceptions of officer well-being (perceptions of general health status)?
H₀: Overcommitment decreases general health status.

Construct Validity

Previous research using similar variables to define and measure productivity, organizational variables related to stress, and individual health guides this current study. Scales developed for effort-reward imbalance (ERI), overcommitment variables, health, and perceived productivity variables (von Thiele and Hasson, 2011; Tsutsumi, Ishitake, Pter, Siegrists, and Matoba, 2001; Gamsiz Bilgin, Mert, and Sezgin, 2011; Madeley et al, 2012; ten Klooster et al, 2013) have been adapted for this study and are included in Appendix A.

Effort, or the demanding aspects of the work environment (Siegrist, Li, and Montano, 2014), was quantified using three questions from the short version of the effort-reward imbalance questionnaire. Reward, or the gains and benefits the employee receives (Vegchel et al, 2005), was quantified using seven questions from the short version of the ERI questionnaire. Overcommitment or the individual's intrinsic motivations and coping abilities was quantified using six questions from the short version of the ERI questionnaire. Productivity, defined as the quantitative and qualitative functioning level of a worker (Allred, 2012, Evans, 2004), was quantified using a single item question regarding perceived work ability and two questions regarding perceived work quantity and perceived work quality. Self-rated health was operationalized through previous use of the SF-36 questionnaire (Gamsiz, Mert, and Sezgin, 2011; Madeley et al, 2012; Klooster et al, 2013). Five questions were used from the questionnaire pertaining to the perceived health of the participants. The questions were measured by Likert scales. Studies have suggested that the SF-36 and shortened versions of it

are valid tools in assessing perceived health of individuals (Brazier, et al, 1992; Ul-Haq, Mackay, Fenwick, and Pell, 2013; Wang et al, 2012).

Studies using ERI have found the model to be reasonably valid for use regarding work related stress and health (Siegrist et al., 2004). Additionally, the study by Siegrist et al suggests the ERI short form version has consistent internal validity. The short version of the ERI will be used in this study. Studies examining the construct validity of the ERI model often use factor analyses to make their determinations (Zurlo, Pes, and Siegrist,2010; Siegrist et al, 2004; and Griep et al (2009). The studies suggest that the factor analytic validity of the ERI is adequate for the three scales measured (commitment, effort, and reward).

Studies also suggest the ERI model has adequate criterion validity. Many previous studies have highlighted criterion validity by using logistic regression, which tests the ability of the ERI model variables to predict outcomes in relation to other variables (Siegrist et al, 2004; Zurlo, Pes, and Siegrist, 2010; Li, Yang, and Cho; 2006). Across these studies, researchers found that the survey questions were appropriately associated with anxiety, depression, and psychological strain as linked to an effort-reward imbalance. Moreover, these studies suggest that as perceived levels of reward decrease and perceived levels of effort and overcommitment increase, so does the levels of anxiety, depression, and psychological strain (Li, Yang, Siegrist, Cho, 2005; Tsutsumi, Nagani, Morimoto, and Matoba, 2002; Kinnunen, Feldt, and Makikangas, 2008;).

There are some studies that have highlighted potential problems with the ERI model. For instance, the study by De Jonge et al (2008) suggests that the ERI model may not accurately

account for average changes in effort, esteem rewards, career-related aspects, and overcommitment over time. Additionally, other studies have suggested a possible reporting bias of negative affectivity due to the self-reporting of health by the study participants (Weyers et al, 2006; Tsutsumi et al, 2001). However, despite these potential limitations, the studies have suggested that overall, the ERI model is a feasible and psychometrically justified measure of assessing psychosocial stress at work with relevance to perceived health outcomes.

Internal validity was addressed in this study by including a number of demographic variables including age, gender, education, specific occupation, number of years working in current occupation, number of years working for current employer, and the type of work completed (schedule or shift work). This was done in order to control for the possibility of other factors influencing the findings of this research.

The external validity of the study is reliant on a large enough sample size relative to the targeted population. Here, the study gathered approximately two hundred probation officers from Central Florida, which included the following counties: Orange, Lake, Osceola, Seminole, Marion, Sumter, Volusia, and Brevard. Between the state and county probation agencies, there are approximately 800 probation officers in Central Florida.

3. DATA, METHODOLOGY, AND ANALYSIS

Design and Sampling

A cross-sectional survey was administered by the researcher to the participants of the study to determine predictors of probation officer stress, productivity, and health. There are approximately 1000 adult and juvenile probation officers in Central Florida with approximately 800-850 of these officers employed by the Florida Department of Corrections and the Florida Department of Juvenile Justice and approximately 150-200 county probation officers. Of the 150-200 county probation officers, this study had access to approximately 40. After agency approvals, this study had access to a total of approximately 400-500 of the probation officers in Central Florida at the state and county levels.

In terms of workload, the probation officers in the Department of Corrections (DOC) supervise individuals placed on felony probation. DOC probation officers utilize a risk-assessment tool to determine the likelihood of recidivism and thus the frequency of probationer-probation officer contact. The probation officers employed by the Department of Juvenile Justice (DJJ) supervise juveniles placed on probation for felonies as well as misdemeanors. DJJ probation officers use their own risk-assessment tool that is also used for probationer and probation officer contact frequency among other things. Probation officers working at the county level supervise adults who were placed on probation for misdemeanor offenses. In few counties, some probation officers are assigned to supervise individuals that are awaiting trial for felony offenses via GPS monitoring. Additionally, probation officers working for local governments do not have a uniform method of supervision, although most agencies

require the probationer maintain some type of monthly check-in and officers routinely perform home visitation and employment verification.

While the state agencies approved study participation, half of local agencies declined participation in the study. The counties that declined participation were Orange, Seminole, Marion, and Volusia; leaving Lake, Osceola, Sumter, and Brevard as participating agencies. Some agencies declined participation citing county manager disapproval; others simply indicated that they did not have the time to participate at the time of request. Nonetheless, county probation offices encompassed a relatively small number of probation officers compared to the 800-850 officers from DOC and DJJ. Additionally, the participation of Lake and Sumter counties allowed for the inclusion of probation officers who supervise misdemeanor cases in largely rural areas.

After obtaining agency approval, probation officers were contacted by various agencies within Central Florida. Probation officers of both genders and all races were encouraged to participate in the study. The only requirement for participation was that the officers must be an employee of a Florida governmental organization or an employee of an entity contracted through a Florida governmental organization to provide probation services. It was important to have diversity in the study in order to explore further the effects of organizational stress and differences across gender and race. The participants were recruited at their respective probation offices. The survey was administered during a quarterly staff meeting or designated meeting when the majority if not all probation officers were present in one setting. If some

probation officers were not present at the meeting, no future attempt was made to solicit participation in the study.

Probation officers who agreed to participate were then administered anonymous, paper surveys regarding their attitudes and feelings toward organizational practices and their perceived level of stress, productivity, and health. Each survey contained an "Explanation of Research" form, describing the research and explaining the rights of the participants that included refusal to complete the survey. It was also explained that, at any time, the participants could stop completing the survey if desired. Finally, it was explained that survey completion indicated that the participants agreed to allow their responses to be included in the data collection of this study and used for further analyses.

Survey

The administered survey was designed to assess the level of perceived stress by the probation officer as well as perceptions of health and productivity using questions derived from prior research. The questionnaire is included in Appendix A. The first section of the questionnaire asked questions pertaining to demographic and occupational data. These included gender, age, educational attainment, race/ethnicity, years employed in the criminal justice system, years employed as a probation officer, shift work status and where appropriate, type of specialized caseload. All the questions from section one were multiple option responses.

Next were sixteen questions that measured stress using a six item Likert Scale that ranged from "Strongly Disagree (1)" to "Strongly Agree" with no neutral category. The first

three of these questions had to do with the effort variables associated with officer perception of exerted effort in the ERI Framework (Siegrist, Li, and Montano, 2014). They included 1) “I have constant time pressure due to a heavy work load,” 2) “I have many interruptions and disturbances while performing my job,” and 3) “Over the past few years, my job has become more and more demanding.” The effort composite score was calculated as the sum of these three questions and ranged from 3 to 18.

The next seven questions pertained to reward variables associated with probation officer perception of reward. The questions asked the probation officers about their perceived esteem, job security, and job promotion and included 4) “I receive the respect I deserve from my supervisor or a respective relevant person,” 5) “My job promotion prospects are poor,” 6) “I have experienced or I expect to experience an undesirable change in my work situation,” 7) “My job security is poor,” 8) Considering all my efforts and achievements, I receive the respect and prestige I deserve at work,” 9) “Considering all my efforts and achievements, my job promotion prospects are adequate,” and 10) “Considering all my efforts and achievements, my income is adequate.” The reward composite score was calculated as the sum of these six questions and ranged from 7 to 42

The remaining six questions of the ERI Framework pertained to perceived overcommitment by the probation officers. These included 11) “I easily get overwhelmed by time pressure at work,” 12) “As soon as I get up in the morning, I start thinking about work problems,” 13) “When I get home, I can easily relax and ‘switch off’ work,” 14) “People close to me say I sacrifice too much for my job,” 15) “Work rarely lets me go, it is still on my mind when

I go to bed,” and 16) “If I postpone something that was due today I’ll have trouble sleeping at night.” The overcommitment composite score was calculated as the sum these six questions and ranged from 6 to 36.

The next set of questions given to the probation officers asked for perceived self-rated health and were derived from the SF-36 Survey (Bilgin, Mert, and Sezgin, 2011; Madeley et al, 2012; Klooster et al, 2013; Ghaddar, Mateo, and Sanchez, 2008). Additionally, many studies have used shortened questionnaires instead of utilizing the questionnaire as a whole (Ghaddar, Mateo, and Sanchez, 2008; Gandek et al, 1998) and that strategy was employed here. The first two questions were a five item Likert scale ranging from “Very Poor (1)” to “Very Good (5)” with “Average (3)” as the neutral category and asked about general health status. These included 17) “How would you rate your general state of health” and 18) “Compared to one year ago, how would you rate your general health now?” The respondents were then asked four question to rate their current general state of health. These questions were a four item Likert scale that ranged from “Definitely True (1)” to “Definitely False (4) with no neutral item. “Don’t Know” responses were allowed. The questions were 19) “I seem to get sick a little easier than other people,” 20) “I am as healthy as anybody I know,” 21) “I expect my health to get worse,” and 22) “My health is excellent.” The scores ranged from 6 to 26.

The next three questions asked about an officer’s perceived productivity. Productivity can be defined as the individual's perception of his/her work quality, work ability, and work output. The first question, (23), asked: “How would you describe your current work performance?” It was a 10 item scale that ranged from “All time worst (1)” to “All time best.”

The next two questions were a five point Likert scale ranging from “Very Seldom or Never (1) to “Very Often or Always” and included a neutral “Sometimes (3) response. These questions included 24) “How often are you satisfied with the quality of your work” and 25) “How often are you satisfied with the quantity of your work?” The scores ranged from 3 to 20.

The final survey question asked the probation officers about their supervision style on a ten point scale with 1 being the most punitive end of the crime control ideology and 10 being the progressive end of the offender/treatment ideology. In addition to the composite scales described above, an effort-reward ratio was computed. This was done by taking the Likert scales of effort (numerator) and taking the Likert scales of reward (denominator) to determine specific ratios between the two based on participant responses. According to Siegrist et al. (2004), a correction factor must also be applied due to the different number of items in the numerator and the denominator. The final formula for computing the effort-reward ratio is as follows:

$$ER = c \frac{E}{R}$$

where "e" is the effort score, "r" is the reward score, and "c" is the correction factor. The correction factor was needed due to the different numbers in the numerator and denominator (Siegrist et al, 2004). According to Siegrist (2014), the correction factor can be computed as:

$$c = \frac{\text{Number of reward items}}{\text{Number of effort items}}$$

For this study, the correction factor was 7/3 (2.33). The total sum of the effort and reward scales for each participant was computed in order to determine the effort-reward ratio.

Research suggests a ratio close to zero suggests an ideal perceived effort to reward ratio. That is, the participant believes they give an acceptable level of effort while attaining relatively high reward. Scores of one and above 1.0 suggest an effort-reward imbalance (Sperlich, Peter, Geyer; 2012).

Analytic Strategy

First, descriptive statistics including frequencies, means, and variation were performed on all variables. Next, scales were calculated for each unique construct from their identified questions as described above. Cronbach's alpha was used to measure the reliability of the survey items and their scales used in the study. After the tests for reliability had been completed, Pearson correlations were used to identify bivariate relationships among the dependent, independent, and control variables and identify potential collinearity issues. Finally, the study utilized multiple regression analysis in order to determine how well stress predicted a health and productivity among probation officers.

4. RESULTS

As described previously, data were collected from six probation agencies across central Florida including DOC, DJJ, Lake, Osceola, Sumter, and Brevard. There were approximately 400 probation officers within these six agencies, of which 207 probation officers completed the questionnaire, representing a 52% response rate. The questionnaires were administered during county or circuit probation staff meetings, which are held, monthly quarterly or biannually. Generally, if the probation officers were present at these meetings, they participated in the questionnaire. Attempts were made to speak with each of the chiefs or head managers of the respective probation departments to determine how similar each probation agency was as far as methods of supervision, philosophies, and office cultures. However, scheduling conflicts prevented the ability to speak extensively with any of the managers regarding agency goals, missions, managerial philosophies, agency priorities, and office culture. At best, some of the chiefs and office managers gave standard mission goals and statements similar to the mantra of their respective organizations, which is to essentially reduce crime and delinquency in their communities.

The research involved a total of 207 participants. The sample consisted of 84 male participants (40.6%) and 120 female participants (58.9%). The race and ethnicity of the participants included 77 white participants (37.2%) and 125 participants who identified as black, Hispanic, or other (60.4%). Five participants did not identify their race/ethnicity. There was a total of 197 probation officer participants that indicated they work during normal work

hours, typically from 9am to 5pm with slight variations (95.2%), while 9 participants indicated they have a shift work schedule (4.3%). About one quarter of the participants indicated they had a specialized caseload of some type (26.6%), while about three quarters of the participants indicated they had no type of specialized caseload (72.9%). The minimum and maximum ages in the study were 22 years and 68 years, respectively. The average age was 37 years old. On average, respondents indicated they spent 9.9 years spent as a criminal justice professional with 8.5 years spent as a probation officer. Finally, probation officer style of supervision was measured using a 10 point scale where 1 represented the most punitive end of the crime control ideology while 10 represented the rehabilitative end of the offender treatment ideology. The average among probation officer style of supervision score was 5.7, indicating a small ideological tilt towards rehabilitation. Approximately 75 percent of the probation officers reported having a quasi-crime control and offender/treatment ideology, meaning those probation officers felt as though they used both ideologies when they deemed necessary depending on the circumstances.

The probation officer demographic data showed similarities and differences with previous study data of probation officers. Probation officer crime control ideology was similar to a study by Miller (2015), with both studies reporting probation officers perceiving themselves to have a style of supervision directly in the middle between crime control and rehabilitation/offender treatment. The majority of the group consisted of female probation officers, which is in line with previous research (White et al, 2015; Lewis, Lewis, and Garby, 2013; Gayman and Bradley, 2013; and Slate, Wells, and Johnson, 2003). The average length of

time spent as a probation officer was also similar to previous studies (Wells, Colbert, and Slate 2006; Gayman and Bradley, 2013). Previous studies differed in the percentage of minorities, with previous studies having a larger number of white probation officers versus minority probation officers (Gayman and Bradley, 2015; Wells, Colbert, and Slate, 2006; Miller, 2015).

Table 2. Probation Officer Characteristics

Variable	N	Percentage	Variable	Statistic
Gender			Age (in years)	
Male	84	40.6%	Minimum	22
Female	120	58.9%	Maximum	68
Level of Education			Mean	37.4
12 th Grade or Less	1	0.5%	SD	10.90
Some College, No Degree	1	0.5%	Missing	4
Bachelor's Degree	169	83.1%	Years in Criminal justice	
Graduate/Professional Degree	31	15.0%	Minimum	0
Missing	2	1.0%	Maximum	35
Race			Mean	9.9
White	77	37.2%	SD	8.85
Black, Hispanic, Other	125	60.4%	Missing	2
Missing	5	2.4%	Years as Probation Officer	
Work Schedule			Minimum	0
Regular Office Hours	197	95.2%	Maximum	30
Shift Work	9	4.3%	Mean	8.4
Missing	1	0.5%	SD	8.08
Special Caseload			Missing	1
Yes	55	26.6%	Style of Supervision	
No	151	72.9%	1-4	41
Missing	1	0.5%	5&6	95
Effort-Reward Imbalance			7-10	67
	Statistic		Mean	5.7
N	195		SD	1.71
Minimum	0.3		Missing	4
Maximum	3.9			
Mean	1.6			
SD	0.66			

An effort-reward imbalance score was computed for each participant in the study and is also included in Table 2. A score of 1 or higher indicates an effort-reward imbalance. Of the 198

participants whose responses could be calculated into an effort-reward imbalance score, 180 of the participants scored a 1 or higher. Upon further analysis of the data, particularly within the effort-reward imbalance variable, some extreme values were discovered. Specifically, 3 participants scored considerably higher than the other participants in the study with scores of 5.99, 5.99, and 4.18 respectively. The next closest observable score was 3.88. Based on the mean scores of the other participants, the responses of these 3 participants appeared implausible relative to other respondents. These subjects scored on either extreme for effort and reward suggesting no intention to provide a representative answer. The scores appeared to offer no meaningful contribution to the understanding effort-reward imbalance and were excluded from subsequent analyses.

Next, Table 3 shows the descriptive statistics for the scale variables. Cronbach's Alpha was calculated for the five scale variables of effort, reward, overcommitment, health, and productivity to determine the reliability of the scales. Here, the scales had moderate (0.65) to high reliability (0.9), indicating that each set of variables that made up the scale were adequately representing the hypothesized latent construct.

The data suggests that the probation officer participants perceived themselves as giving a relatively high amount of effort as its mean of 14.8 was closer to the maximum effort score (18) than its minimum effort score (3). Probation officers perceived moderate rewards in return as the rewards' mean of 23.5 was closer to its minimum score (7) than its maximum score (42). Notably, no respondent indicated an effort-reward score than 37, well below the maximum score (42). Additionally, the participants reported moderate perceptions of overcommitment

with a score of 21.4, slightly above the scale’s midpoint; moderate health with a mean of 18.2, slightly above its midpoint; and moderate productivity with a mean of 14.2, slightly above its midpoint.

Table 3. Construct Variable Statistics

Construct Variable	n	Chronbach’s α	# of items	Sum Range	Min	Max	Mean	SD
Effort	199	0.79	3	3 to 18	3	18	14.8	2.85
Reward	200	0.70	7	7 to 42	9	37	23.5	5.83
Overcommitment	204	0.82	6	6 to 36	6	35	21.4	6.06
Health	172	0.90	6	6 to 26	8	26	18.2	4.30
Productivity	201	0.65	3	3 to 20	7	20	14.2	2.82

Relationships between the construct and control variables

Bivariate analyses were conducted for the control and construct variables to determine potential interactions among the variables. Table 5 shows that the Effort-Reward Imbalance variable had associations with age (0.24), years in criminal justice (0.25), years as a probation officer (0.26) and supervision style (-0.18). Next, the effort construct variable showed association with age (0.21), years in criminal justice (0.28), years as a probation officer (.27) and style of supervision (-0.18). Lastly, the reward construct variable showed associations with age (-0.19), race (-0.15), years in criminal justice (-0.14), years as a probation officer (-0.18), and style of supervision (0.22). The results of the analysis suggest that there is a weak association between probation officer age and perceived rewards, where an increase in age decreases the likelihood of probation officers perceiving themselves as being adequately rewarded for their work output. The decrease in perceptions of reward as age increases may be due to the

burnout that probation officers may develop over time. It is conceivable that perceptions of inadequate compensation and recognition could contribute to a cumulative increase in stress each year that reward compensation continues to be insufficient.

Furthermore, the research suggests that minority probation officers are more likely to perceive the rewards they receive as inadequate in relation to the amount of perceived work output. The notion that minorities may perceive given rewards as less adequate could be due to the idea that minorities often feel as though they have to work harder to legitimize themselves in the workforce. Moreover, minority probation officers may feel as though they have to dispel stereotypical ideologies and perceptions based on the overrepresentation of minorities on probation and within the criminal justice system (Lutze, 2014; Walker, Spohn, and Delone, 2007). Additionally, the number of years spent working in the criminal justice field and the number of years spent working as a probation officer increase the likelihood of probation officer dissatisfaction with the rewards they are given. The findings appear to suggest a trend over time where a greater dissatisfaction arises as the probation officers become older and more senior in the organization. There are several possible contributors to this dissatisfaction including the failure of probation officers to recognize any type of positive difference or improvement in their respective communities. Finally, it is suggested that the probation officer's style of supervision affects their perception of reward, where a more offender treatment ideology is correlated with a more positive perception of reward. The findings regarding style of supervision highlight a trend toward moving away from a crime control ideology within probation agencies. Miller (2015) suggests that probation officers who identify

more with crime control ideologies are more likely to be more engrossed in their work, potentially leading to higher levels of stress and the extent to which the probation officer feels as though they are being properly recognized.

The overcommitment construct variable showed associations with age (0.21) and years in criminal justice (0.15). The results suggest that an increase in probation officer age increases officer feelings of overcommitment to their work. Furthermore, the analysis suggests that years spent working in the criminal justice field also increases officer feelings of overcommitment to their work. These findings would indicate that probation officers may feel that as they grow in their careers, that more tasks are being placed on them than in previous years. This perception of increased job demand could cause perceptions of overcommitment of the inability to withdraw from work while away from work.

The health construct variable showed associations with age (-0.23), race (0.25), years in criminal justice (-.24), and years as a probation officer (-.27). The results of the analysis suggest that as a probation officers ages, negative health perceptions increase. Additionally, the results suggest that minority probation officers are more likely to have positive perceptions of their health. Finally, the results suggest that the longer a probation has worked in the criminal justice field and as a probation office, the more likely they are to report negative perceptions of their own health. It can be expected that as a probation officer ages, their perceptions of self-health would become more negative as aging is associated with increased health problems. Additionally, based on these findings, it can be expected that probation officers with extended careers would report more negative perceptions of self-rated health. This finding contradicts

previous research suggesting that older probation officers report less stress and lower frequencies of burnout (Slate, Wells, and Johnson, 2003). It was not expected that minorities would report healthier status and does not coincide with previous literature (Lutze, 2014). Speculatively, minorities in this study may have reported better health statuses because reporting of health issues could be presented as a weakness or that their job duties, while admittedly taxing and unrewarding, are also having some type of effect on their perceived health. Further study is warranted to determine if this result is unique to this sample.

The productivity construct variable showed associations with education (0.14) and style of supervision (0.19). The results of the analysis suggest that the higher the reported education of the probation officer, the higher the perceived level of productivity. Furthermore, the analysis suggests that probation officers who report of a more rehabilitative ideology are more likely to perceive themselves as more productive probation officers. Table 4 summarizes these results.

Table 4. Bivariate Correlations

		Control Variables								
		Gender	Age	Education	Race	Yrs. in Crim. Just.	Yrs. As Prob. Ofc.	Work Sched.	Special Caseload	Super. Style
ERI										
	Pearson Corr.	0.01	0.24*	0.07	0.10	0.25*	0.26*	0.07	0.02	-0.18*
	N	195	191	193	190	193	194	195	195	191
Effort										
	Pearson Corr.	-0.14	0.21**	-0.01	0.01	0.28**	0.27**	0.10	-0.03	-0.18*
	N	199	195	197	194	197	198	198	198	195
Reward										
	Pearson Corr.	-0.01	-0.19*	-0.13	-0.15*	-0.14*	-0.18**	0.05	-0.06	0.22**
	N	200	196	198	195	198	199	200	200	196
Overcommit.										
	Pearson Corr.	-0.11	0.21**	0.08	0.12	0.15*	0.13	0.02	0.05	-0.13
	N	204	200	202	199	202	203	203	203	200
Health										
	Pearson Corr.	-0.06	-0.23**	0.04	0.25**	-0.24**	-0.27**	-0.06	-0.03	0.14
	N	172	169	171	169	171	171	171	172	168
Productivity										
	Pearson Corr.	0.06	0.07	0.14*	-0.11	0.09	0.10	0.10	-0.06	0.19**
	N	201	198	199	197	200	201	200	203	199

*p≤0.05

**p≤0.01

Perceptions of Rewards with Productivity

Table 5 summarizes the results of perceptions of rewards with productivity. Figure 2 displays the linear relationship between the two variables. In examining the first research question, the results of the correlation analysis between probation officer perceptions of low reward and probation officer perceptions of low productivity indicate a positive correlation between the two variables. The findings suggest that there is some small association between perceptions of probation officer reward and probation officer perceptions of productivity, whereby a perception of reward increase among probation officer will moderately increase the perceived productivity among probation officers.

Table 5. Reward and Productivity Regression Statistics

<i>Reward</i>	<i>Productivity</i>
Pearson Correlation	0.20
p	0.005
n	197

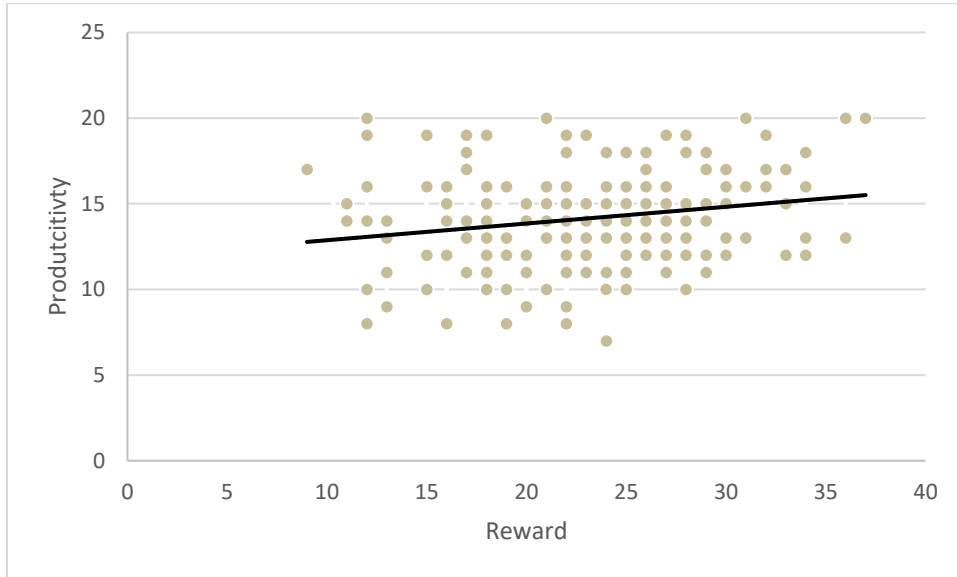


Figure 2. Productivity by Reward

Perceptions of Effort-Reward Imbalance with Overcommitment

Table 6 summarizes the findings of perceptions of ERI with overcommitment. Figure 2 shows the linear relationship between the two variables. Research Question 2 hypothesized a positive relationship between Effort-Reward Imbalance and overcommitment where higher levels of ERI result in higher overcommitment. Here, the results of the correlation analysis between probation officers with an effort-reward imbalance and perceived overcommitment indicate a positive relationship (0.52) between the two variables.

Table 6. Effort-Reward Imbalance and Overcommitment Regression Statistics

<i>Effort-reward Imbalance</i>	<i>Overcommitment</i>	
	Pearson Correlation	0.52
	p	>0.001
	n	195



Figure 3. Overcommitment by ERI Ratio

Perceptions of Overcommitment with Health Status

Table 8 summarizes the findings of overcommitment by ERI ratio. Figure 3 displays the linear relationship between the two variables. Research Question 3 posited that overcommitment decreases general health status. Again, the results of the correlation analysis between probation officer perceptions of overcommitment and their perceptions of health indicated a negative association (-0.42) between the two variables. The findings suggest that

there is a moderate association between an increase in probation officer perceptions of overcommitment and a decrease in probation officer perceptions of their own health.

Table 7. Overcommitment and Health Regression Statistics

<i>Overcommitment</i>	<i>Health</i>	
	Pearson Correlation	-0.42
p	>0.001	
n	172	

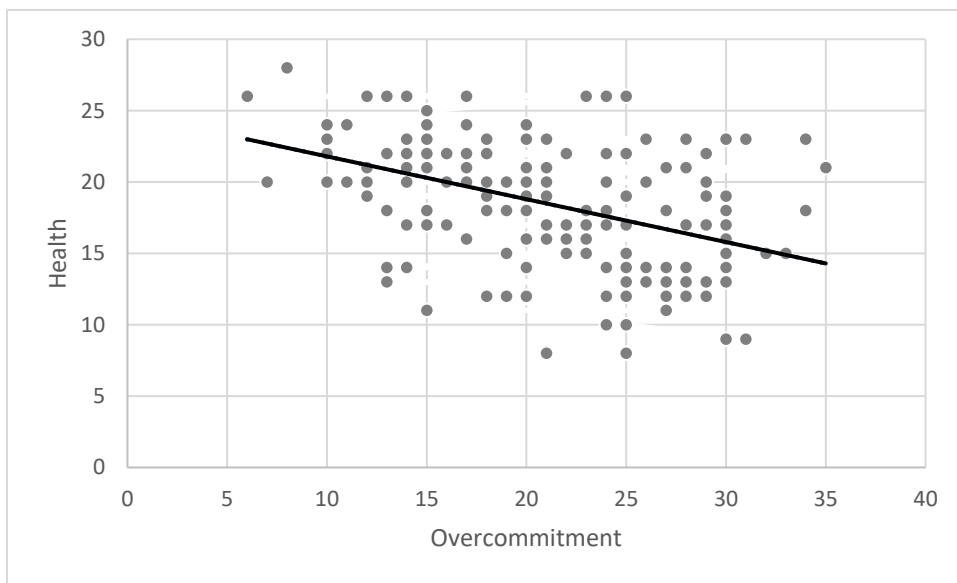


Figure 4. Health by Overcommitment

Regression Analyses

Finally, several regression models were fit to examine the relationships between Effort-Reward Imbalance (ERI), overcommitment, and health status while control for demographics and employment variables. As was discussed previously, there were a number of demographic statistics that were associated with ERI, overcommitment and health status, similar to previous

research involving probation officers, such as age, years spent working as a probation officer, and probation officer ideology (Lutze, 2014). There were also some disparities with previous research such as the minority probation officers reporting higher health statuses compared to white probation officers (Lutze, 2014).

Additionally, the correlation results indicate that effort-reward imbalance increases with age, years worked in the criminal justice field, and years worked as a probation officer. This finding would suggest that there could be an increase in job demand as the probation officer ages and spends more time in the criminal justice field while perceived rewards are not commensurate with the additional duties the probation officers are being asked to complete. Additionally, the correlation between having an effort-reward imbalance and a probation officer having a more crime control ideology may indicate the difficult and stressful nature of a more punitive focused mindset, where an increase in the number of arrests, offender violations, and perceived increases safety of the community is not reflective in compensation or acknowledgment.

Given the results of the correlation analyses, six of the original control variables were used for the hypotheses models: age, gender, education, race, years as a probation officer, and probation officer style of supervision. Work schedule and specialized caseload were excluded from the model due to initial relationship testing indicating no statistically significant relationship with any of the construct variables. Additionally, years worked in criminal justice was also excluded due to collinearity with years worked as a probation officer variable.

Model 1 tested the relationship of reward on productivity while controlling for other potentially influencing variables. It was hypothesized that reward would increase productivity. Here, the results bear that hypothesis out, with reward minimally increasing productivity with education and supervision style also exerting influence. The results indicate that as reward increases, the estimate of productivity increases by .08. Additionally, while the model was statistically significant, only six percent of the variation in productivity was explained by the model, suggesting that a different model might improve the fit. Table 8 summarizes these findings.

Table 8. Model 1- Reward on Productivity

	B	SE	t	P
Intercept	6.54**	2.68	2.42	0.017
Gender	0.32	0.41	0.78	0.437
Age	-0.002	0.03	-0.20	0.840
Education	0.95**	0.42	2.27	0.024
Race	-0.39	0.44	-0.89	0.374
Years as P.O.	0.02	0.04	0.59	0.555
Superv. Style	0.22*	0.12	1.76	0.080
Reward	0.08**	0.04	2.15	0.033

a. R Squared =.090 (Adjusted R Squared = 0.06)

b. $F(7, 188)=2.556^{**}$

c. * $p<0.1$, ** $p<0.05$

Taken at face value, the results of Model 1 suggests that extrinsic motivators don't have much influence on probation officers. Extrinsic factors such as organizational support and job security were suggested to have significant influence on public sector employee productivity including probation officers (Martinuessen and Richardsen, 2007; Finn and Kuck, 2005; Lutze, 2014; Lewis, Lewis, and Garby; 2013). The probation officers reported relatively low scores of on the reward scale, yet Model 1 only accounts for a minor amount of the productivity

variation. The results suggest that probation officers may look more to intrinsic motivators rather than external motivators to find rewards in their jobs.

Next, Model 2 tested the relationship between the effort-reward imbalance ratio and perceived overcommitment. It was hypothesized that as the effort-reward ratio rises, so too does the level of overcommitment. The finding indicates that as ERI increases so does the estimate for overcommitment by 4.50. Here, the finding suggests that having an effort-reward imbalance significantly contributes to higher levels of overcommitment from probation officers.

Table 9. Model 2- Effort-Reward Imbalance on Overcommitment

	B	SE	t	p
Intercept	8.93	4.47	2.00	0.047
Gender	-1.15	0.76	-1.50	0.135
Age	0.08	0.06	1.49	0.139
Education	0.83	0.76	1.09	0.270
Race	0.72	0.83	0.87	0.384
Years as P.O.	-0.07	0.08	-0.93	0.352
Superv. Style	-0.18	0.23	-0.82	0.416
ERI	4.50***	0.61	7.34	0.000

- a. R Squared = .309 (Adjusted R Squared = .281)
- b. $F(7, 183) = 11.240^{***}$
- c. *** $p < 0.001$

Model 3 tested the relationship between overcommitment and health. It was hypothesized that perceptions of health would decline as perceptions of overcommitment increased, which was borne out by the results. The results indicate that as overcommitment increases, the estimate of health decreases by .27. Additionally, race had a significant effect on report health status with minorities reporting higher health status than whites while years as a probation officer decreased health status. The model also explained about 24 percent of the health status variation. Table 10 summarizes these findings.

Table 10. Model 3- Overcommitment on Health

	B	SE	T	P
Intercept	17.80***	3.43	5.179	.000
Gender	-0.27	0.65	-.438	.662
Age	0.01	0.04	.270	.788
Education	0.65	0.61	1.065	.289
Race	2.05**	0.64	3.216	.002
Years as P.O.	-0.10*	0.06	-1.720	.087
Supervision Style	-0.10	0.17	.758	.578
Overcommitment	-0.27***	0.05	-5.231	.000

a. R Squared =.276 (Adjusted R Squared = .243)

b. $F(7, 164) = 8.483$

c. * $p < 0.1$, **, $p < 0.01$, ***, $p < 0.001$

Based on the findings of the three initial hypotheses, interaction effects between effort-reward imbalance and overcommitment effects on health status were explored. It was hypothesized that an interaction between effort-reward imbalance and overcommitment would intensify the negative effects of overcommitment on perceptions of health. Here, the results indicate a marginal decrease of commitment on health status where the beta in Model 3 went from -0.27 to -0.28 in the Model 4. Furthermore, in order to determine whether the difference between the main effects model and interaction model were significant, a likelihood ratio chi-square test comparing the two models was completed. The test suggests that there is a significant difference (160.98, $df = 1$, $p < .0001$) between the two models, where the interaction model accounts for more the variation in health status. Table 11 summarizes the results of the interaction model between effort-reward imbalance and overcommitment. The findings indicate a relationship between the variables where it can be suggested that reducing the levels of effort-reward imbalance and overcommitment could lead to more healthy probation officers, but the effects may be negligible.

Table 11. Model 4- Overcommitment*ERI Interaction on Health

	B	SE	t	p
Intercept	17.09***	3.52	4.86	.000
Gender	-0.28	0.63	0.45	.657
Age	0.01	0.04	0.38	.708
Education	0.77	0.61	1.26	.211
Race	2.21***	0.67	3.32	.001
Years as P.O.	-0.09	0.06	-1.56	.120
Supervision Style	0.06	0.17	0.35	.727
Overcommitment	-0.28***	0.08	-3.66	.000
Overcommitment*ERI	-0.001	0.02	-0.03	.975

- a. R squared= .293 (Adjusted R Squared= .255)
- b. F (8, 156)= 7.633,
- c. *** p<0.001

The results of the model assist in theorizing that there is flow where an increase in effort-reward imbalance increases overcommitment. This overcommitment can then potentially lead to a reduction in the perceived health of the probation officer. Reduced health can lead to a reduction in work output by increasing absenteeism as well as the inability of the probation officer to function at 100 percent capacity. Figure 5 shows the relationship between effort-reward imbalance, overcommitment, and health.



Figure 5. Relationship Between ERI, Overcommitment, and Health

The results of the study assist in theorizing the idea that having an effort-reward imbalance increases the likelihood of overcommitment, which then increases the likelihood of reduced health. The finding contributes to past research suggesting that higher levels of stress lead to a reduction of health, particularly within the criminal justice field. However, other potential

explanations of the results cannot be ignored such as the reciprocal nature that the effort-reward imbalance, overcommitment, and health could have. Also, we need to keep in mind that our findings are based on perceptions and not on behaviors. Overcommitment does not have to begin with an effort-reward imbalance necessarily and could begin with health instead.

5. DISCUSSION

In this study, we explored the extent to which probation officer perceptions of stress affected probation officer perceptions of productivity. From this study, there are many points to discuss regarding what the results may indicate, research limitations, and implications for future research.

The results documented for the effort-reward imbalance of probation officers are consistent with the overall themes of the research literature regarding stress within criminal justice occupations. Of the 198 participants with an effort-reward imbalance score, 180 participants met the criterion for an effort-reward imbalance. This finding suggests that over 90 percent of the probation officers in this study have some level of effort-reward imbalance where they perceive that rewards or compensation from their organization do not match the amount of output they give. While it was originally expected that a large number of probation officers would have an effort-reward imbalance, it is surprising that an overwhelming majority of the probation officers suffered from an effort-reward imbalance. Our study could not locate a single effort-reward imbalance related study regarding criminal justice personnel, let alone probation officers. However, previous research has suggested that criminal justice occupations are some of the most stressful occupations within the United States (Gershon et al., 2009; Collin and Gibbs, 2003; Violanti and Aron, 1994, and Moon and Johnson, 2012).

Indeed, our finding here could be described as a nearly universal effort-reward imbalance for probation officers. Previous studies using the effort-reward imbalance score used

participants from several different occupational fields, and none had such a large proportion of participants who scored an effort-reward imbalance (de Jonge, Bosma, Peter, Siegrist, 2000; Li, Yang, Cheng, Siegrist, Cho, 2005; Nielsen et al, 2013; Kouvonen et al, 2005; Hasselhorn, Jackenberg, and Peter, 2004). Of these studies, the participants who qualified as having an effort-reward imbalance ranged from 3 percent to about 25 percent. One study using nursing home staff as participants saw a percentage close to ours, with an effort-reward imbalance of 85 percent (Yokoyama, Hirao, Yoda, Yoshioka, and Shirakami, 2014).

Effort-reward imbalances showed positive correlations with age, years working in the criminal justice system, and years working as a probation officer. Additionally, effort-reward imbalance is negatively correlated with a probation officer style of supervision that is geared more toward crime control. The findings suggest that the likelihood of having an effort-reward imbalance increase with age and years spent working in the criminal justice field. This finding coincides with previous research on the stressful nature of criminal justice careers (Moon and Johnson, 2012; Rose, 2007; Brown and Campbell, 2004; Decker and Varano, 2007; Kelty and Gordon, 2015). It is not clear if older officers and those with more tenure develop an imbalance over time and, if so, at what rate. Thus, future research should investigate the trajectory of effort-reward imbalance over career spans. The effort-reward imbalance showed a negative correlation with crime control probation officer style of supervision. This finding suggests that it may be less stressful for probation officers to adopt more of an offender/treatment ideology in their work practices and habits. This is because probation officers with a more balanced approach may appreciate the rewards of their work, for example, when an offender enrolls in a

substance abuse course. They also may take solace in knowing they did their best to help this person be successful and avoid recidivism.

The effort construct variable was positively correlated with age, years working in the criminal justice field, and years worked as a probation officer. Regarding age, years working in criminal justice, and years working as a probation officer, previous research has consistently found positive correlation with stress among criminal justice personnel, including probation officers (Lutze, 2014; Brunson and Gau, 2015; Petrillo, 2007; Mair, Burke, and Taylor, 2006). Therefore, our findings are consistent with past studies. The research suggests that criminal justice personnel perceive themselves to be under considerable stress and that increased levels of perceived stress increases with the age of the criminal justice employee.

The reward construct variable was negatively correlated with age, being a racial minority, years worked in the criminal justice field, and years worked as a probation officer. The reward construct was positively associated with offender/treatment probation officer style of supervision. The findings suggest that as probation officers age they feel as though they are not properly compensated or do not receive the amount of recognition deserved. Subsequent research with longitudinal data is needed to confirm this speculation. Previous studies have highlighted increased job demand on criminal justice personnel and probation officers specifically (Annison, Eadie, Knight, 2008; Forbes, 2010; Rhoades, 2002). Furthermore, studies have suggested that stagnant wages and poor organizational support lead to lower levels of perceived rewards among criminal justice personnel (Lewis, Lewis, and Garby, 2013; White et al, 2015; Finn and Kuck, 2005). The correlations between the reward construct and years

worked as in criminal justice and years worked as a probation officer are consistent with previous studies that highlight the stress associated with working in the criminal justice field, particularly as individuals progress in their career (Gayman and Bradley, 2013; Patterson, 1992).

The overcommitment construct variable displayed positive, statistically significant correlations with age and years working in the criminal justice field. These findings support the idea that overcommitment increases as time moves forward (Kinman and Jones, 2008; Weyers et al, 2006; Garza, et al; 2014; Avanzi, Zaniboni, Balducci, and Fraccaroli, 2014). However, longitudinal data is needed to confirm this assumption. There has not been much literature regarding age as it relates to overcommitment directly. However, the findings in this study coincide with research by Tsutsumi et al. (2002), which found that overcommitment increased with age.

The health construct variable was negatively correlated with age, years in the criminal justice field and years as a probation officer. However, health was positively correlated with race. The findings regarding race and health of probation officers are not consistent with the literature regarding health and criminal justice personnel (Dowler, 2005) or regarding race and probation officer health (Lutze, 2014). As with most humans, it is conceivable that as probation officers age, their actual health and their perception of get worse. This can be seen by the positive correlations between health and the number of years worked in the criminal justice field and the number of years worked as a probation officer.

The productivity construct variable was positively associated with education and the offender/treatment probation officer style of supervision. The findings regarding education and productivity coincide with previous research suggesting that education level increases the likelihood of employee efficiency and effectiveness (Chevalier, Harmon, Walker, and Zhu, 2004; Burger and Teal, 2015; Vu, Im, and Bulesco-McKim, 2014). These findings further support the importance in education within the criminal justice field. Additionally, the findings suggest that probation officers who adopt a more offender/treatment supervision ideology view themselves as being more productive in the workplace. This may be because these officers witness effective change among probationers, and so they see the positive influence they make on probationers and by extrapolation on the community.

Regarding the results of the hypotheses testing, the results of the study found statistical significance between reward and productivity, effort-reward imbalance and overcommitment, and overcommitment and health. The findings of this study to some extent support the findings of previous literature where reward for output contributes to an increase in the productivity of the worker (Rogojan, 2009; Anjum and Parvez, 2013). However, the multivariate analysis suggests that the reward model accounts for a minimal amount of productivity.

Although Siegrist (1996) suggested that an individual does not need an effort-reward imbalance to feel overcommitted to work, the finding of this study found a significant correlation between the two variables. Furthermore, the multivariate analysis suggests that nearly 30 percent of perceived overcommitment is accounted for by the effort-reward imbalance on overcommitment model. The study suggests that as the effort-reward imbalance

ratio increases, so does the likelihood of overcommitment. These findings may imply that overcommitment either leads to an effort-reward imbalance or an effort-reward imbalance could lead to becoming overcommitted according to our theoretical framework. Furthermore, the study suggests that an interaction between effort-reward imbalance and overcommitment slightly increases the propensity of poorer health. While Siegirst (1996) suggests that it is not required to have an effort-reward imbalance to have overcommitment, this study suggests that combining both variables slightly increases the likelihood of reduced health among probation officers. Therefore, individual probation officers and probation agencies should develop strategies for minimizing effort-reward imbalance and perceptions of overcommitment in the interest of improved health.

The results could suggest that intrinsic motivators may have a far greater influence regarding stress and productivity than expected. While the overcommitment construct explores potential results of perceptions of intrinsic values, the construct fails to explore these intrinsic values directly. Previous research has suggested one of the differences between public and private sector employees is that extrinsic motivators by themselves have less of an influence on public sector employees (Frank and Lewis, 2004; Bellante and Link, 1980, Kim, 2012). However, previous research also suggests that sufficient intrinsic motivations should assist in lowering reported stress among workers (Deci and Ryan, 2000; Bangasser, 2010). Future research should attempt to explore the importance of intrinsic motivations within government and criminal justice employees in the interests of reducing employee stress and increasing employee productivity.

Policy Implications

The results of this study show that there are associations between imbalances of reward and effort as they related to overcommitment, health, and productivity, and the policy implications are several. From an organizational standpoint, being aware of the amount of stress placed on probation officers is beneficial in that measures and resources can be put into place to assist in counteracting these feelings of stress and unproductive work behaviors. Therefore, it is important that probation organizations develop methods of combating stress within the probation workplace, particularly organizational stressors. Lutze (2014) highlighted examples in which the probation officer organizations created a more stress-free environment. One of the main concerns of probation officers, according to Lutze, was the unrealistic expectations placed on the probation officers by management personnel too far removed from the actual practice of probation work. The results of this study suggest that a reduction in job demands can lead to lowered effort-reward imbalance, which can lead to improvements in productivity. Improved productivity can have wide-reaching effects in areas such as proper supervision of probationers, opportunities to provide referrals for services to the probationers, and relaying of appropriate recommendations and information to other stakeholders such as law enforcement personnel, attorneys, and judges. Additionally, probation organizations can improve work productivity and reduce stress among probation officers is by providing more opportunities for organizational participation by probation officers. Policy development and suggestions for improving daily officer operations are examples of ways that probation officers can become more involved in organizational

function. It has been suggested by others that participatory management strategies can lead to a reduction in stress, health related ailments, and reduce turnover (Jiang et al; Lutze, 2014).

Recognition from superiors is an important aspect of probation officer functionality. A work environment that highlights probation officer works and accomplishments can greatly effect probation officer perception of reward, which in turn can lead to reduced stress and improved health. In return, it is likely that the probation officers will give more effort and be more productive in their duties. Greater participation from probation officers regarding organizational function is something that researchers have suggested previously to improve production and reduce stress among probation officers (Slate et al, 2003; Gayman and Bradely, 2013). Unfortunately, the recommendations seem to have fallen on deaf ears, thus far.

Many studies on probation officer stress provide recommendations as to ways in which the organization can reduce stress, increase health, and increase productivity among probation officers. But is there anything the probation officers can do themselves to avoid reduced stress, increase well-being, and increase productivity? We cannot responsibly ask probation officers experiencing high levels of stress and reduced health to give less work effort or to not care as much about the profession, as this can present a danger to public health and safety. So, conceivably and realistically, is there anything the probation officers can do on an individual level to reduce their levels or stress and increase productivity? Probation officers can do better at monitoring their own health. They also can participate in prevention activities both on and off the job. Therefore, individuals should take more of an advantage of the opportunities to monitor and improve their health through the various resources available to them.

The findings of this study support the idea that more formal education may help improve perceived productivity among probation officers. However, the correlation was weak, and education did not correlate significantly with any other construct variable. Probation officer style of supervision may have an impact on the levels of stress and, on how productive the probation officers may perceive themselves. Our findings indicate that perceptions of rewards and productivity are increased as probation officer become more concerned with the treatment and rehabilitation of the probationer. Perhaps, even before deciding to join the realm of probation officer work, one may need to be cognizant of the stressors and risks of probation work. To that effect, potential officers can determine whether they identify more with a crime control ideology or an offender/treatment ideology, knowing that a more crime control orientation could potentially lead to increased stress, reduced health, and decreased productivity versus an offender/treatment supervision approach.

Limitations and Future Research

There are a number of limitations within this study. First, while the study found a significant relationship between effort-reward imbalance, overcommitment, and health, the study did not determine a causal order between the three variables. The idea that effort-reward imbalance effects overcommitment and perceived health was inferred from previous studies. This study did not investigate the possibility of other causal sequences. For example, perceptions of lower health could lead to higher levels of effort-reward imbalance. An individual may feel as though their health is subpar, and thus report higher levels of effort. Officers also could report lower levels of perceived reward based on their perceived health,

creating an effort-reward imbalance. Additionally, higher levels of overcommitment (inability to withdraw from work when not at work) could lead to higher levels of effort-reward imbalance because one may be suffering from job stress based on a tendency to think about work while not in a work setting. Future research on this topic should attempt to clarify causal order between the three variables in order to help confirm prior research causal inferences.

Regarding generalizability, a convenience sample was used for this study. That is, participants used in this study were from a localized area within the state of Florida. Furthermore, the study was dependent upon probation organizations that would allow their probation officers the opportunity to participate in the study. Some organizations declined participation. Gall et al (2007) suggest that when random sampling is not available, it is better to proceed with a convenience sample as opposed to no sample at all. Our convenience sample is a product of the limitation on access. In order to get a more complete and accurate assessment of probation officer stress and productivity within the state of Florida and across the United States, more government agencies should embrace research understanding that it may assist in the improvement of the lives of government employees and, in the long run could help increase agency efficiency and effectiveness.

Another limitation of the study regarding data collection is the reliance on self-reported data that capture perceptions and not behaviors. The self-reported data methodology generally lacks independent and objective verification, although it is quite good at capturing perceptions and objective states of mind. Participants potentially failing to understand the questions or not accurately describing their true feelings regarding the questions asked also can skew the data

collected. Furthermore, selective memory, attribution, and exaggeration can all affect the results of the study. Future research should attempt to collect work-related data, such as past performance reviews, and health data such as annual physicals and medical reports. This information can be used alone or to verify self-reported data, so that a more accurate and complete analysis can be conducted.

Finally, another limitation of this study is the lack of previous studies regarding not only probation officer stress and productivity. Specifically, there have not been any studies of the effort-reward imbalance model as it relates to criminal justice occupations, and of how stress may affect productivity directly as viewed through the effort-reward imbalance model. The limited number of studies regarding these topics makes difficult to determine trends and confirm or dispute the findings of other studies. It was surprising to not locate a single criminal justice study that utilized the effort-reward imbalance, even in an exploratory nature. The effort-reward imbalance has been used across a number of different occupations and is seemingly applicable to many more. Future criminal justice research should apply the effort-reward imbalance model to different types of criminal justice occupations, such as police officers, dispatchers, correctional staff, and even to criminal lawyers. This future research should contribute to our understanding of work on productivity in high risk and demanding occupations.

Conclusion

The findings of this study point to significant relationships among components of the effort-reward imbalance model and probation officer stress, health, and productivity. The study

also suggests significant relationships between probation officer style of supervision and construct variables related to stress and productivity. These results indicate that probation officers perceive themselves to be overworked and under compensated, which leads to having higher levels of stress. Probation officers with higher perceptions of work-related stress may be unable to efficiently and effectively carry out their work duties. This may include the inability to appropriately supervise probationers, ensure court-ordered sanctions are completed and make appropriate recommendations to the courts. If probation officers are less productive, the result could be insufficient public safety. If these stress levels can be lowered, it is expected that higher levels of productivity will occur, which would help increase public safety.

Finally, as there were several limitations present in this study, more research in the area of probation officer stress, health, and productivity is needed. More research is necessary for several reasons. This includes adding more research on an under researched group of criminal justice personnel: probation officers. Furthermore, more research is needed to explore the connection between work productivity as it specifically relates to work stress. Additionally, more utilization of the effort-reward imbalance model in criminal justice studies may help in developing a better understanding of extrinsic and intrinsic motivations for criminal justice personnel.

APPENDIX A: QUESTIONNAIRE

Other Questions:

1. What is your gender? (check one)
 Male Female
2. How old are you? (write in)
_____ Years
3. What is the highest degree or level of education you have completed? (check one)
 12th grade or less (no diploma)
 High school diploma
 Some college, no degree
 Associate or technical degree
 Bachelor's degree
 Graduate degree/professional
4. How would you describe yourself? (check one)
 White Black, Hispanic, Other
5. How many years have you worked in the criminal justice system? (write in)
_____ years
6. How many years have you worked as a probation officer? (write in)
_____ years
7. Are you scheduled for shift work? (check one)
 Yes No
8. Do you have a specialized caseload? (check one)
 Yes No

If "Yes," please describe what kind below:

Mark the category that best describes your opinion or how you feel.

	Question	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1	I have constant time pressure due to a heavy work load.						
2	I have many interruptions and disturbances while performing my job.						
3	Over the past few years, my job has become more and more demanding.						
4	I receive the respect I deserve from my supervisor or a respective relevant person.						
5	My job promotion prospects are poor.						
6	I have experienced or I expect to experience an undesirable change in my work situation.						
7	My job security is poor.						
8	Considering all my efforts and achievements, I receive the respect and prestige I deserve at work.						
9	Considering all my efforts and achievements, my job promotion prospects are adequate.						
10	Considering all my efforts and achievements, my income is adequate.						
11	I easily get overwhelmed by time pressure at work.						

	Question	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1 2	As soon as I get up in the morning, I start thinking about work problems.						
1 3	When I get home, I can easily relax and "switch off" work.						
1 4	People close to me say I sacrifice too much for my job.						
1 5	Work rarely lets me go, it is still on my mind when I go to bed.						
16	If I postpone something that was due today I'll have trouble sleeping at night.						

Mark the category that best describes your opinion or how you feel.

	Question	Very Poor	Poor	Average	Good	Very Good
17	How would you rate your general state of health?					
18	Compared to one year ago, how would you rate your general health now?					

Mark the category that best describes your opinion or how you feel.

	Question	Definitely True	Mostly True	Mostly False	Definitely False	Don't Know
19	I seem to get sick a little easier than other people.					
20	I am as healthy as anybody I know.					
21	I expect my health to get worse.					
22	My health is excellent.					

Mark the category that best describes your opinion or how you feel

23	How would you describe your current work performance?	All-time worst All-time best 									1 0
		1	2	3	4	5	6	7	8	9	

Mark the category that best describes your opinion or how you feel

	Question	Very seldom or never	Seldom	Sometimes	Often	Very often or always
24	How often are you satisfied with the <u>quality</u> of your work?					
25	How often are you satisfied with the <u>quantity</u> of your work?					

Circle the category that best describes your opinion or how you feel

26	What do you consider to be your style of client supervision?	Crime Control Offender/Treatment Oriented 									1 0
		1	2	3	4	5	6	7	8	9	

Comments or Suggestions:

APPENDIX B: IRB APPROVAL OF EXEMPT HUMAN RESEARCH



University of Central Florida Institutional Review Board
 Office of Research & Commercialization
 12201 Research Parkway, Suite 501
 Orlando, Florida 32826-3246
 Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1
 FWA00000351, IRB00001138**

To: **Brandon C. Presley**

Date: **May 18, 2016**

Dear Researcher:

On 05/18/2016, the IRB approved the following minor modifications to human participant research that is exempt from regulation:

- Type of Review: Exempt Determination
- Modification Type: The format of the questionnaire has been modified and some control variable questions have been added. The revised questionnaire has been uploaded in iRIS.
- Project Title: Probation Officer Stress and Productivity: An Organizational Perspective
- Investigator: Brandon C Presley
- IRB Number: SBE-13-09332
- Funding Agency:
- Grant Title:
- Research ID: N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 05/18/2016 11:03:23 AM EDT

IRB Manager

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