Walden University

COLLEGE OF MANAGEMENT AND TECHNOLOGY

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Malcolm Sotebeer

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Applied Management and Decision Sciences Faculty

Dr. David Banner, Committee Member,
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Abstract

The Potential Relationship of Job Demands and Job Resources to Absenteeism and Turnover Intention in 911 Call Centers

by

Malcolm Scott Sotebeer

BS, Indiana University, 1983

MBA, Walden University, 2007

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Applied Management & Decision Sciences

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Abstract

More than 6,100 emergency 911 call centers in the United States are the public's direct link to emergency fire, police, and medical response services. This study addressed absenteeism and turnover as disruptive forces in 911 call center operations. The job demands resources model (JD-R) theorizes that specific working conditions have a direct relationship with behaviors such as absenteeism and turnover intention in call centers. To date, 911 call centers have not been studied specifically to look at the factors related to absenteeism and turnover intention. The purpose of this quantitative study was to examine relationships between independent variables in the form of job demands (JD) and job resources (JR) and the dependent variables of absenteeism and turnover intention. For this research, 216 call receivers and call dispatchers in 11 different 911 call centers in the western United States completed a web-based survey. Correlation was used as the data analysis strategy. Results showed that the JD measure had no relationship to absence duration and long-term absence as absenteeism measures. JD did have a significant statistical relationship with the dependent variable turnover intention. The JR measure also had a significant relationship with turnover intention. Further research is needed that addresses the underlying factors driving absenteeism. Implications for positive social change include potential reduction in turnover in 911 call centers that can result in improved 911 service and thus increase protection of lives and property.

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Dedication

This body of work is dedicated to my family for their enduring support and willingness to put life on hold through this adventure. Nancy, Kristin, and Matt—thank you for standing by me and for allowing me to pursue this goal.

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I wish to thank Dr. Bob Levasseur for his constant and professional guidance—and great sense of humor—through this entire process. This is not a journey that you figure out on your own. A special thanks to Dr. David Banner and Dr. Thea Singer for their outstanding input and feedback in developing and refining this research document. Sheriff Rahr—thanks for putting up with the insanity—and for your support of my pursuit.

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And to the men and women who do this thankless and invisible job of keeping a 24-hour line of help alive across our nation—I sincerely hope that others will now do more to understand who you are and what you do. I get it. Thanks.

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Chapter 1: Introduction to the Study

Background

The three-digit number 911 is the primary telephone lifeline in the United States to reach and dispatch emergency fire, police, and medical services. More than 6,100 public safety answering points (PSAP), also known as *911* or *public safety call centers*, exist in this country to provide an immediate connection to any of those services in an emergency (National Emergency Number Association [NENA], 2010). It is a publicly funded service available to anyone who dials the number anywhere in America, 24 hours a day, regardless of anyone's status.

The receivers and dispatchers in 911 call centers are highly trained individuals who must be able to make instant situational evaluations and then split-second decisions that can make a life or death difference. The job is charged with unpredictability and little room for error, existing in the unique social space of the public trust. Therefore, finding the right 911 staff, developing their competency and capacity, and then keeping them positively engaged in this type of job is in the public interest. As such, *absenteeism*, defined as any voluntary or involuntary absence from work, and *turnover*, defined as any voluntary or involuntary separation from employment, can represent significant impediments to the effective and efficient operation of 911 call center operations.

Call centers of all types are a fairly recent global phenomenon, occupying both public and private sector space in a rapidly expanding variety of applications. Because of the nature of the work and the constantly changing work environments in call centers as a technology-driven job structure, persistent and relatively high employee turnover is a

common issue to this work sector, including 911 call centers (Bain, Taylor, & Dutton, 2005; Hilmer, Hilmer & McRoberts, 2004; Jack, Bedics, & McCary, 2006; Robinson & Morley, 2006; Russell, 2008, 2009; Taylor, Gardner, & McCombs, 2005). While a significant body of work has addressed turnover in both public and private call centers, this study specifically examines employee turnover and absenteeism in 911 emergency call centers (Russell, 2008, 2009; Siong, Mellor, & Moore, 2006).

Call centers have been studied extensively in the literature and the issue of turnover and its many factors and related antecedents, including absenteeism, are common and intertwined operational themes (Bakker, Demerouti, & Schaufeli, 2003; Batt, Doellgast, & Kwon, 2004; Holman, Batt, & Holtgrewe, 2007; Russell, 2008, 2009; Siong, Mellor, Moore, & Firth, 2006). The literature search and review effort for this study found sufficient evidence to support an assumption that turnover and its downstream negative impacts, from high cost employee investment to knowledge and service quality loss, may be one of the more significant problems in all call center operations, including 911 call centers (Bain et al., 2005; Batt et al., 2004; Holman et al., 2007; Holman, Frenkel, Sorensen, & Wood, 2009; Russell, 2008, 2009; Whitt, 2006).

While these assertions are supported by the findings of studies on public call centers, in particular in health care and nursing, as well as by a study of a foreign police call dispatch center, they have not been independently examined in the U.S. 911 call center arena outside of a broader examination of employee retention (Bain et al., 2005; Mueller, Valsecchi, Smith, Gabe, & Elston, 2008; Russell, 2008; Smith, Valsecchi, Mueller, & Gabe, 2008; Taylor, Gardner, & McCombs, 2005). In the Taylor et al. (2005)

study, 911 call center managers and employees still on the job believed that issues such as higher pay elsewhere, general dissatisfaction, being fired or retired, and returning to school were the most likely reasons for turnover. Traditional call center reasons for turnover such as burnout and interpersonal conflict ranked beneath these items as a perceptual issue with existing employees (Taylor et al., 2005). Therefore, this study contributes to the body of knowledge around public sector call center absenteeism and turnover intention generally, and helps to evolve additional data and analysis for the further examination of 911 call centers in the context of absenteeism and turnover intention.

Interestingly, only one known trade association study specifically focuses nationally on 911 call centers, addressing primarily staffing and retention as the global objective of the research. The researchers in the Taylor et al. (2005) study suggested that one problem-solving approach might be to focus more on the reasons people stay rather than the factors that cause them to leave, as have other scholars examining the issue of call center job satisfaction and turnover (Budhwar, Varma, Malhotra, & Mukherjee, 2009; Rose & Wright, 2005; Taylor et al., 2005; Whitt, 2006). No current national studies surfaced in the academic literature specific to the issue of turnover in a 911 emergency call center beyond a conference paper on police call handling in the United Kingdom (Bain et al., 2005). An objective of this study is to extend the existing body of knowledge around turnover and absenteeism in call centers in the private and public sector into the 911 call center segment.

Problem Statement

Employee absenteeism and turnover in emergency 911 call centers are problems of interest to the general public because (a) 911 emergency systems cover 97% of the geographic United States, resulting in a critical public reliance on this service by the majority of citizens in this country; (b) it is the public standard for calling for emergency response services, including medical, crime, fire, and search and rescue, among other life safety emergency situations; and (c) 911 services are publicly funded at the individual local level in every coverage area by citizens' tax dollars (NENA, 2010). The single existing 911 call center study indicated that after poor salaries, shift work leading to stress and burnout was the second most important factor behind turnover for a 911 call center (Taylor, Gardner, & McCombs, 2005).

The turnover of 911 call center personnel has a direct effect on the use of limited public resources in the form of the expenditure of local tax dollars. Since 911 call centers are a codified public mandate, estimated high turnover rates for call centers imply that limited, tax-derived public funds, which could support any number of other public services, must be used to fund employee recruitment, replacement, training, absenteeism, and the overtime required to support minimum staffing levels (Bain et al., 2005; Batt et al., 2004; Hilmer et al., 2004; Holman et al., 2007; Taylor et al., 2005).

Turnover may also be disruptive at least and potentially a more serious problem related to the quality of the call experience for the public. High turnover rates suggest that introducing newer, less experienced workers into the workforce is necessary, requiring higher levels of coaching, monitoring, supervision, and training. Similarly, absenteeism

as it relates to physical health and psychological stressors suggests potential problems emerging from the burden that can be placed on other employees. These problems may arise from issues such as excessive or mandatory overtime and ongoing short staffing.

Considering the call receiver in a customer service role, the quality of the call handling function from input and output communicative behaviors to an assessment and ultimate delivery of precise response information is a matter of the public trust and interest. It can also be a matter of life and death. In the most direct terms, lives may depend on that care and quality of service.

Purpose of the Study

The purpose of this quantitative study is to examine the relationship between job demands and resources and absenteeism and turnover in 911 call centers. The study extends the existing body of knowledge around absenteeism and turnover in call centers in the private and public sector into the 911 call center segment. Related specifically to the JD-R model, the research is grounded in the concepts of job demands as potential drivers of exhaustion and cynicism, leading to patterns of absenteeism, and job resources such as autonomy and supervisory support being positive motivational drivers of measurable employee engagement, leading to measurable reductions of intent to turnover (Bakker & Demerouti, 2008; Bakker, Demerouti, & Schaufeli, 2003).

The context driving the research purpose are those working conditions that apply to call center employment. In that regard, job characteristics specific to a type of employment can have a measurable, negative effect on employee behaviors, including absenteeism and turnover (Bakker, Demerouti, & Verbeke, 2004). Furthering the specific

purpose and application to 911 call centers, researchers have demonstrated that exhaustion and disengagement related to job-specific working conditions create behavioral rejection and disillusionment that contribute to both absenteeism and turnover (Bakker et al., 2004).

Job Demands-Resources (JD-R) Model

The JD-R model is a cornerstone of this study, providing a theoretical and operational platform for examining absenteeism and intent to turnover as a response to those factors that contribute generally and globally to engagement as both a state and a collective behavior. The JD-R model specifies how employee well-being can be produced from two distinct and overarching sets of working conditions, which are defined in the form of job demands and job resources (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

Various studies have found that job demands and job resources are significantly related to absenteeism and turnover in various types of business units in a variety of industries, including call centers (Bakker et al., 2003; Crawford, LePine, & Rich, 2010; Harter, Schmidt, Killham, & Asplund, 2006). Job demands relate to the depletion of personal energy and align with the concept of burnout, including health problems. Job resources align with motivation and engagement (Bakker et al., 2003; Demerouti et. al., 2001).

Job demands are more closely aligned with physical and psychological effort. The relationship with physical and psychological effort suggests that workers are more likely to be absent from work because of exhaustion or emotionally charged stress, among those

factors related to the physical, social, or organizational components of the job (Demerouti et al., 2001). Causing an energy depletion process, the negative impact of job demands emerge as workers try to compensate and maintain psychologically and physiologically for what they perceive to be increases in challenging or threatening tasks or related functions of their work (Crawford et al., 2010). Job demands are therefore positively associated with absenteeism in particular.

Job resources have a positive, motivating effect and are therefore negatively associated with turnover and serve to help predict turnover intent (Bakker et al., 2003, 2004; Bakker & Demerouti, 2008; Bakker, Demerouti, Hakanen, & Xanthopoulou, 2007; Lambert & Hogan, 2008; Siong, Mellor, Moore, & Firth, 2006). Workers are less likely to look elsewhere for employment when the resources of the job such as feedback, autonomy, and social support are strong. The positive effect of job resources is employee engagement (Bakker & Demerouti, 2007).

Engagement or involvement is a well-researched concept defined as a positive, affective emotional state related to one's work that includes vigor, absorption, and dedication (Bakker & Demerouti, 2008; de Lange, Witte, & Notelaers, 2008). Validated instruments such as the Utrecht Work Engagement Scale (UWES) measure specific variables related to work engagement and contribute to the core theories grounding this study (Demerouti et al., 2001).

This study extends the research findings advanced by Bakker, Demerouti, and Schaufeli (2003) into the 911 call center environment. Their research examined job demands in relation to the duration and frequency of absenteeism and job resources to

turnover intention (Bakker & Demerouti, 2007). Specific to a call center study, job demand variables in the context of absenteeism are measured as (a) workload, (b) emotional demands, (c) changes in tasks, and (d) computer problems (Bakker et al., 2003).

Job resources, as independent variables in the context of turnover intent, include (a) employee support, (b) supervisory coaching, (c) time control, and (d) performance feedback (Bakker et al., 2003). In this same context, the concepts of autonomy, social engagement and supervisory involvement related to learning and performance also frame the value of job resources and their relationships to engagement as a negative factor in turnover.

For the purposes of the study, job demands and job resources as engagement drivers provide a framework for examining 911 call center absenteeism and turnover intention. Researchers have noted that the intersection and integration of job stressors that deplete energy and increase absenteeism and job resources that create motivation and thus reduce turnover intention provide valuable insight into working conditions as they relate to employee well-being (Bakker & Demerouti, 2007). Because of the public reliance on 911 call centers, there is a discernable social value in understanding how these variables contribute to both the well-being of call center workers and their contributions to the well-being of the communities they serve.

Absenteeism and Turnover as Call Center Research Topics

While absenteeism is a critical element of the project, the ultimate problem is the eventuality of turnover in an emergency call center. As has been noted, scholars view

absenteeism as an antecedent to turnover, creating the core relationship for the purposes of the study. Absenteeism, as an antecedent, sets up the logic of depleted resources along a continuum that spans from recruitment to eventual termination and back to re-recruitment as a knowledge and economic resource drain.

Broadly defined, *turnover* represents an average or percentage of employees who voluntarily left or were dismissed from the organization in a given year or other period. In the universe of all call centers and in the call center research literature, it is an unstable target. It is important to distinguish between turnover as a quantifiable outcome versus turnover intention as having many variables and conditions including a psychological state that may ultimately lead to turnover as a behavior. In that context, it is argued that turnover intention is consistently related to turnover but is less consistent in the research as a key predictor of the behavior of leaving (Harman, Lee, Mitchell, Felps, & Owens, 2007; Simpson, 2009). It is also noted that obtaining access to a representative sample of employees who have left an organization and assembling valid data remains one of the greatest challenges of turnover research (Bright, 2008; Clausen & Borg, 2010; Firth, Mellor, Moore, & Loquet, 2004; Griffith, Horn, & Gaertner, 2000; Ikwukananne & Muthaba, 2007; Knudsen, Ducharme, & Roman, 2009; Pomaki, DeLongis, Frey, Short, & Woehrle, 2010; Siong, Mellor, Moore, & Firth, 2006; Wright & Bonett, 2007).

Studying simple turnover in a numerical context of those employees having exited the organization, defined here as including all voluntary and involuntary separations for any reason, may be accomplished by obtaining and examining an organization's records for a given period (Hilmer, Hilmer & McRoberts, 2004). To understand the underlying

reasons for actual separations from the employee's perspective is an entirely different matter and suggests both quantitative and qualitative data input. Practical limitations for any researcher seeking to quantify and qualify turnover include:

- the ability to legally find and access employees who have already left an organization
- the ability to legally access and view exit interviews, if they exist at all
- the likelihood that HR managers have specifically focused on capturing either historical qualitative or quantitative data related to turnover
- HIPAA laws protecting many types of personal data

Lambert and Hogan's (2008) prison turnover intention study provided insight into some of the additional arguments for studying turnover intention as opposed to turnover as the end result. Their findings included:

- turnover intent as a final outcome variable is easier to measure and tends to be more accurate
- not only may administrative records be closed to outsiders, but they have been found to be incomplete and inaccurate
- for an organization-based study, employees who are thinking of quitting may be convinced to stay as a result of direct efforts to affect the variables associated with turnover intent (Lambert & Hogan, 2008)

In addition to these specific limitations and constraints, the this research was limited in a more practical sense by time, resources, and geographic factors related to access to call centers where there might be former or exiting call center employees.

While the research method included a request for turnover data from participating call center management, some sites may or may not have been willing to provide such data, and others admitted to not keeping current or historical turnover data. Therefore, the study design focused on researching turnover intention in 911 call centers specifically: (a) given the constraints and limitations discussed, (b) because of the scientific support in the literature for measuring turnover intention as a valid predictor of turnover, and (c) because of the specific measurement of turnover intention in the grounding study and survey design supporting this study.

Turnover estimates for call centers globally run as high as 80% annually to a typical private sector estimated average of 20% (Batt, Doellgast, & Kwon, 2004; Bordoli, 2004; Hilmer, Hilmer, & McRoberts, 2004; Holman, Batt, & Holtgrewe, 2007). The midpoint between those ranges may actually be a reasonable global average while the low end represents the low engagement, routinized work of retailing through outsourced call center operations and the more intellectual operations such as technology-driven business service call centers as an example at the high end. In terms of 911 call centers, the APCO study calculated an industry average of 17% turnover as the inverse function of retention or the retention gap at that point in time (Taylor, Gardner, & McCombs, 2005).

What is clear is that the divide and range on this spectrum outlines the difference between a Tayloristic operation, defined as a high volume and high output call center and an operation at the other end that is customer-service oriented and requires a high level of customer-service commitment (Moss, Salzman, & Tilly, 2008; Russell, 2008; Wickham

& Collins, 2004; Zapf, Isic, Bechtold, & Blau, 2003). At the same time, estimates for the dollar cost of turnover vary widely from as low as $4,300 per employee, to as high as 100% to 200% of the annual average salary of a call center receiver or agent when all related costs are considered (Batt et al., 2004; Whitt, 2006).

The data for global call center annual turnover provides a framework for looking at 911 call centers to examine those costs as well as the factors related to turnover in the context of existing research in the call center industry. It is difficult to find recent call center research that does not include a discussion of turnover. As a result, much of the literature cited related to call center research, which also includes significant discussion and contemplation of the issues of turnover and its factors and impacts, emerges from a relatively recent period from roughly 1999 to the present (Russell, 2008, 2009). Outside of the call center literature specifically, other research efforts have looked at both call centers as specific business units in organizations and the issues of turnover and absenteeism in the more holistic pursuit of understanding the relationship between employee engagement and organizational performance (Harter et al., 2006).

In the call center world, turnover influences emerge from an interesting operational conflict that defines the spectrum of types of call centers from a job quality and class perspective. The pursuit of quality and quantity objectives in terms of worker output both define the two primary types of call centers globally and can describe a constant tension of purpose that may also be present in emergency call centers (Anderson, Pyman, & Teicher, 2007; Bain et al., 2005). Researchers noted in particular that this dilemma extends into police call centers as a sociopolitical consideration where

the importance of service quality as a mechanism or standard to ensure life safety is subordinated to the reality of government economic constraints, priorities, and other mandates (Bain, et al., 2005).

Among many factors subject to exploration in the research, colorful descriptions around these tensions represent a common language in the literature that describes call center work relative to the turnover problem, such as *electronic sweatshops, assembly lines in the head, Tayloristic or high volume-high output operations, emotion intense labor*, and *deskilled white collar machine bureaucracies* (D'Cruz & Noronha, 2007; Russell, 2008, 2009; Sawyerr, Srinivas, & Wang, 2009; Townsend, 2007; Wegge, Van Dick, Fisher, Wecking, & Moltzen, 2006; Wickham & Collins, 2004). Taylorization related to the call receiver job emerges in the research literature as a central theme, representing a growing divide and conflict between industrial task management and call center work as knowledge and emotional labor (Bain et al., 2005; Dormann & Zijlstra, 2003; Halliden & Monks, 2005; Jack, Bedics, & McCary, 2006; Robinson & Morley, 2006; Russell, 2008, 2009).

The Call Center Industry

The primary application of the business form of a call center in terms of employment volume is in the private sector where call centers now cover everything from retail banking and credit sales and services to complex private investment and IT customer services. In the public sector, healthcare, social and other human services, and general government services help lines define the most common applications. The

significant body of research literature related to call centers appears more limited for public sector call centers as a broad category.

Call centers are a knowledge- and technology-based service offering with no face-to-face consumer contact. Inbound call receiver work represents a form of emotional labor that requires sustainable levels of internalized self-direction within the functional framework of a mostly routinized, scripted, and time paced technocracy. To anyone unfamiliar with this sector, the job has historically been looked at as white collar, Tayloristic information labor with heavy handed management systems operating within tightly controlled and monitored environments. On the other end, call center scholars also view the job class and sector as the leading edge of a new world order of customer contact in the information technology economy (Russell, 2008).

Looking forward in the context of Russell (2008), 911 call centers may soon represent emerging value added opportunities in public services from property crimes investigations to crime trend research and neighborhood policing and safety. Yet like all call centers, the persistent issue of high turnover also represents an opportunity barrier given the limiting nature of its resource depleting costs. For the general good of the public and our health and safety, it is therefore important to explore turnover and absenteeism.

Estimates of the total size of the call center industry worldwide vary in the literature (Moss, Salzman, & Tilly, 2008). A 2006 study indicated that more than 15,000 call centers operate in Europe alone (with a 10% annual growth rate), while the United States boasted over 56,000 call centers in the same time period (Burgess & Connell,

2006; Sawyerr, Srinivas, & Wang, 2009). The general estimate for the United States and Europe is that call centers employ between one and three percent of the total workforce (Jack et al., 2006; Wiley & Legge, 2006). Because they are poorly defined in industrial or occupational data, other estimates of the commercial U.S. call center workforce, which does not clearly indicate the inclusion of 911 call centers, ranges from 2.5 million to over 6.5 million workers (Moss et al., 2008).

As noted, the literature is virtually nonexistent with regard to emergency 911 call centers. Emerging formally in 1968 in the United States, emergency call centers also exist now in Canada, the United Kingdom, and Australia, among others (NENA, 2010). Emergency call centers with dispatch powers are characterized by a three digit emergency call number for fire, police, and emergency medical response (NENA, 2010). As of August of 2010, 6,149 Public Safety Answering Points (PSAP) are identified and reached by dialing 9-1-1, which is the official designation for an emergency call center in the United States (NENA, 2010).

The Call Center Research Environment

The academic interest in call centers focuses primarily on the private sector and appears to only more recently delve into the public sector in areas such as tele-nursing, and in at least one instance, a comprehensive study of police emergency response call centers in the United Kingdom (Bain, Taylor, & Dutton, 2005; Mueller, Valsecchi, Smith, Gabe, & Elston, 2008; Smith, Valsecchi, Mueller, & Gabe, 2008). Only one industry-based research effort has been found specific to 911 call centers in the United States (Taylor, Gardner, & McCombs, 2005). In this particular instance, Taylor et al.

(2005) also note that there are no data available that address geographic service areas, numbers of employees, specific types of 911 services offered, or even the populations served by individual 911 call centers.

Private sector research has dominated primarily because of the need to succeed with a business model for service delivery predicated on achieving profitability while reducing cost associated with providing industry-specific customer service requirements (Bain et al., 2005). As such, the discussion of goals conflict as an underlying theme in a technology based work process designed to both achieve quantity and quality objectives has been the research driver for primarily the private sector study of call centers (Anderson, Pyman, & Teicher, 2007). Given the conflict and contrast between quality and quantity as fundamental strategic objectives of the work, it is logical that cost drivers associated with the failure to achieve these objectives would emerge. In that context, employee driven issues that undermine the business premise of the call center such as turnover and absenteeism emerge as significant areas of call center academic study.

It is somewhat baffling that so little research has been done to understand the significance and implications surrounding this single phone number in American culture. In a purely anecdotal context, 911 is likely one of the first and most psychologically and emotionally significant number sequences that a parent teaches a child in this country. It is likely that most readers can draw on the recollection of a news story in which a child, who is barely old enough to talk, had the presence of mind to dial 911 to seek help for a parent in immediate distress. These types of stories have happy if not miraculous endings, whereas only 40 years ago a tragedy would have been almost certain.

It is likely a common number known to most immigrants including those whose first language is one other than English. It is a number and service now confounded by emerging technologies such as cellular and internet-based phone services (Taylor, Gardner, & McCombs, 2005). To that end, it is also worth noting that the two efforts to look at emergency response-based call centers identified in this study are now more than five years old.

Public expectations and a presumptive reliance on the belief that an emergency responder will always be at the end of the 911 call may be viewed as a psychological entitlement, providing some explanation for the lack of academic interest or inquiry to date. Publicly funded services or those comforts that are available at the flip of a switch may be extremely powerful drivers of indifference in the context of the 911 call center. Even the absence of a profit motive may weigh on the amount of academic daylight any given issue may receive. To suggest that 911 service and the significance of issues such as turnover are taken for granted is a hazardous leap. But it may not be a stretch to suggest that eroding public resources to finance our most critical public services needs may in fact provide the impetus for study into the complex issues of 911 service delivery. If nothing else, protracted and sustained downward economic conditions in the public sector may help to create a heightened sensitivity to the allocation of shrinking public resources.

The academic drivers of call centers as a global industry focus on the larger, long term issue of how work will evolve in the future in the context of restructuring, globalization, and the design and delivery of service work (Burgess & Connell, 2006).

Russell (2008) noted that call centers are a leading edge for a profoundly evolving global service environment where advanced cultural management, technology, and emotional labor concepts becomes the new metaphor for larger social developments. In that context, a “white collar sweatshop” operational and environmental stigma implies many potential conflicts between workers and their view of self and their work.

The existing and most current literature includes a rich body of qualitative and quantitative research. Surveys, field research, observation, semi structured interviews, meta analyses, and a variety of case studies populate the academic landscape around call centers. The predominant topics covered by the call center research literature emerge as:

- employee engagement,
- commitment,
- recruitment and retention,
- turnover,
- job satisfaction,
- technology,
- work design and organization,
- autonomy and discretion,
- emotional labor,
- management systems,
- and the physical, social, and psychological aspects and impacts of the work.

A more detailed and rich discussion emerges in chapter 2. At the core of the discussion around all of these variables is turnover. It appears to be the plague of the industry

regardless of the specific public or private sector application. Why? Because the central premise of the call center business model is efficiency in service delivery and cost effectiveness (Taylor & Bain, 2007). High turnover, and its cost and related factors, logically defeats that strategic objective and purpose on many levels. It is a logic that extends rationally to the public model as well.

The public sector alignment relative to 911 call centers emerges from research conducted around nursing call centers in Europe and Australia. Case studies examine "transcendental" values related to saving lives and protecting health, providing a level of confidence for extending existing research work into the 911 call center arena (Mueller, Valsecchi, Smith, Gabe, & Elston, 2008). The literature does not specifically address 911 emergency call centers in the United States, providing the present opportunity to explore this narrow industry segment and the specific topic of turnover and the factors that cause it. International scholars on call centers and the two primary American trade associations supporting the 911 segment have confirmed that there is a surprising lack of knowledge, research, or discussion around 911 call center turnover among a host of subject areas thoroughly researched in the call center literature (R. Batt, personal communication, September 21, 2010; M. Berryman, personal communication, September 25, 2010; B. Russell, personal communication, August 30, 2010).

911 Call Centers

While the concept of an emergency number dates back to 1957, the 911 telephone number was formally mandated by Congress in 1968 to provide a single, nationwide emergency telephone number for the public (NENA, 2010). Currently, there are over

6,100 Public Safety Answering Points in the United States that provide more than 97% of the geography of the country with the 911 telephone number as the only single number for seeking emergency response help (NENA, 2010). The 911 call center is the first response lifeline for this entire country and requires a human being on the receiving end of every call to accept, interpret, evaluate, and precisely direct a caller's need to the proper agency or mechanism of public response.

In the global environment of public and private sector call centers, the issue of turnover is well established in the literature (Batt, Doellgast, & Kwon, 2004; Holman, Batt, & Holtgrewe, 2007; Russell, 2008, 2009).

A 911 call is also a complex interaction between the caller and the call receiver, serving first an inbound function that extends next to an outbound role. The call receiver has an intermediary service role between a caller needing help and those trained in any number of highly specialized response capabilities. The outbound transaction can sometimes but not necessarily include a separate dispatcher who may function as the next level of interpretation and action. Or the call receiver may directly channel the emergent need out to a police officer, firefighting unit, emergency medical team, police or medical helicopter pilot, search and rescue coordinator, or any of several front line emergency responders including a secondary call receiver network such as Coast Guard dispatch.

The call receiver, as the primary focus of this study, serves a multi-level role that includes interpreter, intermediary, and traffic coordinator. In a 911 call environment, their primary function is to concisely advance a clear interpretation of entirely auditory inputs in the form of exacting communication of conditions or circumstances to dispatchers or

directly to the appropriate first responder in their chain of contact. The requirement to remain calm and focused as a service provider, regardless of the behaviors on either end of the call interaction and transaction, has been the subject of extensive examination in both private and public sector call center literature (Batt et al., 2004; Holman et al., 2007; Russell, 2008; Russell, 2009)

Throughout this study, the concept of *smiling down the phone line* is an appropriate metaphor for a tension of quantitative versus qualitative purpose in the delivery of services in the call center industry (Anderson, Pyman, & Teicher, 2007; Bain, Taylor, & Dutton, 2005; Batt et al.; Holman et al., 2007; Russell, 2008, 2009). It is therefore rational in this study to consider that kind of constant emotional regulation as a theoretical and conceptual metaphor for the 911 call center work environment in the strictest sense of what emotional labor is. Regardless of caller circumstance or the call receivers reactive, internal emotional response, this is a unique and distinguishing feature of the work that contributes to the need for examination of 911 call centers as an important social concern.

Call Center Differentiation

Understanding the research opportunity requires understanding what the call center entity is and its global role. Additionally, it is important to establish the distinction between a 911 call center and other commercial and public sector call centers, including health response and a variety of crisis hotlines. Call center definitions vary, and a variety of attempts have been made in the literature to define this emerging form of work organization (Russell, 2008). Generally, they have several key characteristics in common:

(a) commercial or public sector activity, (b) centered functionally around a computer or other technology designed to facilitate the efficient classification and distribution or allocation of both incoming and outbound calls, and (c) operated by employees, in the form of call receivers, dispatchers, agents, or operators, who interact with clients (Valverde, Ryan, & Gorjup, 2007; Russell, 2009).

The grounding study supporting this research effort defined *call centers* as a work environment where the business operation is driven by computer and telephone technologies that efficiently distribute incoming calls to call receivers, permitting a simultaneous, two-way interaction while exchanging and subsequently inputting information (Bakker, Demerouti, & Schaufeli, 2003, p. 393). This particular definition most closely resembles the 911 call center operation. The distinguishing difference is the real time capability and capacity for life safety emergency services dispatching, which is drastically different from a dispatch such as a cable television repair call out.

Tele-nursing and various crisis hot lines resemble 911 call centers in the most direct relational sense in that there can be life and death emergencies involved in the calls without notice to the call receiver. This is a unique and distinguishing feature that separates all inbound emergent call centers from all other public and private call center operations.

However, it is critical to distinguish 911 call centers from crisis lines, tele-nursing, and all other call centers on one key point. Emergency 911 call centers uniquely and solely have the power and authority to dispatch and direct, while in progress, fire, police, emergency medical, and other critical incident resources to a scene or location

without additional clearance, intervention, or levels of authority. Any crisis line or even the front desk of a hospital emergency room, police department, or sheriff's office must transfer an inbound direct phone call for help to a 911 call center in order to dispatch some form of emergency response. This operational distinction is a critical and absolute differentiating factor that separates 911 call centers from any other type of call center in the literature.

Research Questions and Hypotheses

Bakker, Demerouti, and Schaufeli (2003) hypothesized in their call center study that job demands represented energy driven processes related to health problems and ultimately absence and that job resources represented a motivational process that directly affected job involvement or engagement as a significant predictor of turnover intention. In the Dutch telecom call center, correlations were drawn between the dual roles of job demands and job resources on both absenteeism and turnover. These findings lay the foundation for an examination in 911 call centers.

The JD-R model, specific to call center examination, identifies job demand characteristics or conditions in the form of (a) work pressure or workload, (b) emotional demands, (c) changes in tasks, and (d) computer problems (Bakker et al., 2003). Job characteristics in the demand category are expanded to reflect job specific attributes that can contribute to psychological, physical, and operational stress or pressure. While demands are not automatically negative, their relevant relationship involves individual workers' adaptability to changes in any of these characteristics and their ability to sustain changing job demands. The negative effects of these changing characteristics are the

driving factors behind health problems associated with absenteeism frequency and duration (Bakker, Demerouti, & Schaufeli, 2003; Bakker, de Boer, Demerouti, & Schaufeli, 2003).

Job resources are specifically identified as and include (a) social support, (b) supervisory coaching, (c) time control, and (d) performance feedback (Bakker, Demerouti, & Schaufeli, 2003). Thus, the measurement of engagement in relation to job resources provides validated, predictive power to the JD-R model (Bakker, Schaufeli, Leiter, & Taris, 2008). Additional studies have concluded that a combination of low work engagement, low autonomy and low job resources collectively support hypotheses that workers will ultimately leave the organization voluntarily (de Lange, De Witte, & Notelaers, 2008).

Broadly, the central question to the study is whether job demands and job resources specific to call centers also have predictive power related to absenteeism and turnover in 911 call centers. Given this broad view, the specific research questions for this study are:

1. What is the relationship between job demands and absenteeism as measured by absence duration?
2. What is the relationship between job demands and absenteeism as measured by long-term absence?
3. What is the relationship between job demands and turnover as measured by turnover intention?

4. What is the relationship between job resources and absenteeism as measured by absence duration?
5. What is the relationship between job resources and absenteeism as measured by long-term absence?
6. What is the relationship between job resources and turnover as measured by turnover intention?

Hypotheses

The JD-R model suggests that the dual roles of job demands and job resources create two psychologically distinct processes (a) the first relating to demands that can create exhaustion and ultimately absence and (b) the influences of resources that can generate or stimulate engagement to a degree sufficient to deter turnover (Bakker, Demarouti, Hakanen, & Xanthopoulou, 2007). These conclusions of prior theory lead to a series of hypotheses specific to this study:

Hypothesis 1_0: There is no significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and absenteeism as measured by absence duration.

Hypothesis 1_a: There is a significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and absenteeism as measured by absence duration.

Hypothesis 2_0: There is no significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and absenteeism as measured by long-term absence.

Hypothesis 2_a: There is a significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and absenteeism as measured by long-term absence.

Hypothesis 3_0: There is no significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and turnover as measured by turnover intention.

Hypothesis 3_a: There is a significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and turnover as measured by turnover intention.

Hypothesis 4_0: There is no significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and absenteeism as measured by absence duration.

Hypothesis 4_a: There is a significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and absenteeism as measured by absence duration.

Hypothesis 5_0: There is no significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and absenteeism as measured by long-term absence.

Hypothesis 5_a: There is a significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and absenteeism as measured by long-term absence.

Hypothesis 6_0: There is no significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and turnover as measured by turnover intention.

Hypothesis 6_a: There is a significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and turnover as measured by turnover intention.

Operational Definitions

Absenteeism: Avey, Patera, and West (2006) concluded that absenteeism is most generally defined as the behavior of not attending work all or part of the time in a given time period for commonly accepted reasons, including: (a) sickness, (b) vacation, (c) family medical leave, (d) elder and child care, (e) maternal and paternal leave, (f) occupational deviance, (g) bereavement, (h) military duty, (i) jury duty, and other similar or related types of activities.

Attrition: It is viewed as actual turnover of all employees in a given period, usually 1 year (Taylor, Gardner, & McCombs, 2005).

Autonomy: Deci and Ryan (1987) defined *autonomy* as a powerful intrinsic state of being where perceptions or feelings of power, control, and self-determination may drive or contribute to desirable behaviors.

Call center: A call center is a commercial or public operation designed for the delivery of information services, including in house and out sourced structures, that can receive in bound or generate outbound calls, relying on some form of technology

interface to facilitate the job and work process with humans predominantly acting in the role of call receivers or call initiators (Mueller, Valsecchi, Smith, Gabe, & Elston, 2008).

Call taker: Also referred to as a call receiver, the NENA definition is "an agent of a PSAP who answers emergency calls" (NENA, 2010, www.nena.org).

Deskilling: In the context of call center work, deskilling refers to the influence of Taylorism or the scientific management of work. This is theorized to occur in such a way that emerging call interface technologies drive job control and job standardization. Technology is viewed as an intervention that facilitates and ultimately defines how call center work must be performed and thus limiting individual skills needed and used (Wickham & Collins, 2004).

Emotional dissonance: A state or psychological experience where an individual intentionally displays or communicates one type of emotion while actually feeling another emotion all together. In relation to call handling, this emotional discrepancy may be reflected in management or suppression of actual feelings in order to project that one is actually happy, cheerful, nice, or engaged, supportive, and concerned (Wegge, Van Dick, Fisher, Wecking, & Moltzen, 2006). In 911 calling, this type of behavioral response may include the intentionally complete suppression of any and all emotion as a means to remove or disaffect the call receiver from the emotions of the caller as a means to evaluate the true nature of an emergency.

Emotional exhaustion (EE): EE is generally equated with high intensity and demanding emotional labor and is a known precursor to burnout and ultimately turnover in demanding, high stress environments. It is associated positively with burnout,

absenteeism, apathy, and turnover and turnover intent. EE is described as a state of both emotional and mental fatigue and feelings of complete energy drain (Witt, Andrews, & Carlson, 2004).

Emotional labor: Also called emotion work, emotional labor represents the psychological process of regulating and managing feelings, attitudes, emotions, and behaviors while providing knowledge and expertise in a qualitative and quantitative manner in order to induce a proper state of mind in others (Anderson, Pyman, & Teicher, 2007; Mastracci, Newman, & Guy, 2006; Russell, 2009).

Equity theory: As a function of voluntary or intent to turnover, equity theory relates that an employee will use referent coworkers in the judgment of how they are rewarded, which may include a cumulative range of outcomes from supervisory feedback to pay and organizational recognition. Under rewarding in this context relative to others in equity theory can be a driver of intent to turnover. The perceptual environment created by the individual, whether real or not, drives the behavioral response to what is perceived to be *inequity* (Adams, 1963; Nyberg, 2010).

Expectancy theory: As a function of voluntary or intent to turnover and absenteeism, this theory applied to call centers suggests that employee work effort results in a level of performance that creates an expectation of some form of an outcome from pay to intrinsic rewards that are generated via coaching, feedback, or other mechanisms. Job satisfaction is a critical measure related to expectancy theory and individual factors or variables that cumulatively drive individual response and relationships to specific expectations or outcomes (Nyberg, 2010; Vroom, 1964).

High commitment or high involvement call center model: This refers to a call center where positive management engagement is supported by decision latitude and employee autonomy with the goal of service quality (Russell, 2009; Zapf, Isic, Bechtold, & Blau, 2003).

Intangible turnover cost: They include those cost such as identifying and correcting mistakes and the costs associated with reduced productivity as a result of mandatory overtime due to high vacancies and turnover and inexperienced staff requiring high levels of monitoring, coaching, and probationary supervision. This cost model also implies higher levels of stress, low morale, and the potential for increased emotional and mental exhaustion when turnover and vacancies are both high with high numbers of new, inexperienced workers (Hilmer, Hilmer, & McRoberts, 2004).

Job demands-resources model (JD-R): This model specifically identifies how employee well-being can be promoted through two distinct sets of working environments. Job demands are working conditions characterized as physical, social, organizational, or psychological aspects of a job that may induce individual strain as a result of requiring either or both of sustained physical (cognitive) or psychological (emotional) effort. The potential negative effects can include physiological or psychological costs or both. Job resources are working conditions characterized as physical, social, organizational, or psychological aspects of a job where specific resources may (a) reduce job demands, (b) support the achievement of job goals, or (c) contribute to learning, growth and the development of the employee. Job demands are related to exhaustion and may evolve to negative behaviors such as absenteeism, where job resources align positively with work

engagement and negatively with turnover intent (Demerouti, Nachreiner, Bakker, & Schaufeli, 2001).

Job discretion: Job discretion is the relative latitude and freedom given an employee to make decisions related directly to the performance of their job (Holman, Frenkel, Sorensen, & Wood, 2009).

National Emergency Number Association (*NENA) standard:* The NENA (2010) target with respect to the standard of answering 90% of 9-1-1 calls within 10 seconds. This standard is a driver of PSAP funding and a very tightly managed performance standard in most 911 call centers.

Public safety answering point (PSAP): PSAP is the designation for a call center that is responsible for answering calls to an emergency number for fire, medical, and police response (NENA, 2010, www.nena.org).

Public safety call center: This is another terminology used to describe a 911, PSAP, or emergency call center (Taylor, Gardner, & McCombs, 2005).

Machine bureaucracy: This is one of the early research and theoretical descriptions for call center work environment structures that is also consistent with the Taylorist view of call center operational and work design (Russell, 2009).

Mass service model: Also referred to as mass production, customized bureaucracy or a machine bureaucracy model, this call center business model is designed to deliver high market volume at the lowest cost with limited added value for the caller. The job design is characteristically low in task control, complexity, and overall individual discretion while high in monitoring and supervision, routinization, dialog scripting, and

emphasis on individual call quantity. Other job measures such as call waiting time, number of calls answered within specific time parameters, and dropped or abandoned calls are typical of this model. The mass service model is considered the most Tayloristic model of call center operation (Russell, 2008; Taylor & Bain, 2007).

Quality versus quantity dilemma: This is a common organizational conflict in call center operations which revolves around the objectives of high volume call handling quantity versus service delivery quality in terms of the customer or caller expectations and satisfaction. This organizational conflict directly contributes to many issues relating to employee retention and turnover, among others (Anderson, Pyman, & Teicher, 2007).

Quit rate: This is the monthly or annual number of employees who voluntarily terminate as a percentage of total employment in the period. The rate is sometimes equated with market conditions where the employee has or perceives the ability to readily change jobs (Holman, Frenkel, Sorensen, & Wood, 2009).

Retention rate: This is the total number of employees who remained over the period of 1 year as a percentage of the total number of employees who worked for the business unit during the same period. This percentage is obtained through the calculation: 1–the turnover rate (Taylor, Gardner, & McCombs, 2005).

Sacrificial human resources strategy: This is a deliberate recruiting and hiring process for call centers where singular strategic organizational objective combines efficiency and high levels of service from call receivers. High, predictable levels of employee turnover are expected and built into this model as a result of emotional exhaustion and burnout. By targeting specific profiles of recruits, this method is

specifically designed to take advantage of a predictable, individual worker clash that emerges from an emphasis on emotional labor and intrinsically motivated individuals and high pressure task demands. This model can be successful. When effective and sustainable as a strategy, the successful implementation of this practice is characterized by (a) a substantive local labor pool, (b) a strong and efficient recruiting program that can identify and attract intrinsically motivated candidates, (c) control, task oriented management, and (d) excellent staff performance measurement and management (Robinson & Morley, 2006; Wallace, Eagleson, & Waldersee, 2000). The strategy has been proven to be successful, especially in the mass model call centers where the working conditions generally have the same characteristics of (a) low discretion, (b) highly surveilled and controlled work process, and (c) low customer service sophistication enabling highly scripted and routinized interactions (Robinson & Morley, 2006; Wallace, et al., 2000).

Tangible turnover cost: This refers to those costs best associated with recruiting, hiring, and training a call receiver (Hilmer, Hilmer, & McRoberts, 2004).

Taylorism: More commonly known as the *practice of scientific management,* developed by Frederick Taylor at the beginning of the 20th century, *Taylorism* comprises the critical components of scientific management related to (a) maximizing efficiency in the way workers perform tasks, (b) harnessing the informal knowledge that workers develop through their skill base and experience, and (c) improving the way tasks are performed to maximize their efficiency. The outcome of the Taylor process is then to organize and standardize work processes and rules to ensure consistency and continuity.

In the context of call center work, the concept contributes to a description of the work and supports arguments suggesting that one of the overall objectives of the call center service and business model is the minimization of skills and routinization of work functions (Wynn, 2006)

Technological determinism: This describes a point of view in the literature that suggests that job design and ultimately job performance or execution in call centers is less determined by individuals and more directed by an initial and continuing evolution of technology that ultimately determines how a call center is operationalized. Originally grounded in hard wired telephony, evolving technologies and platforms such as texting and wireless communications are driving change in how call centers operate (Russell, 2008).

Turnover: Also referred to as attrition, turnover is the complement of retention and is calculated as the number of staff who left in a period for all reasons divided by the total number of current employees (Taylor, Gardner, & McCombs, 2005).

Utrecht Work Engagement Scale (UWES): UWES is a validated, 17-item questionnaire designed to measure the three primary dimensions of work engagement: (a) vigor—six items, (b) dedication—five items, and (c) absorption—six items. The scale exists in multiple languages and has been used with high emotion work environments such as nursing, law enforcement, and firefighting (Schaufeli & Bakker, 2003).

Work engagement: Employee or work engagement is a psychological state of positive well-being, which includes factors or characteristics such as fulfillment, vigor, absorption, commitment, and dedication. It is not an unpredictable or momentary state of

being which might include emotions such as enthusiasm or cheerfulness. Rather, it is a measurable and more stable and sustained affective-cognitive state measured by (a) high levels of energy, (b) mental resilience, (c) strong work involvement, (d) being invested and involved in the work, (e) having an identity in the work, (f) being engrossed, and (g) feeling or demonstrating a sense of significance, pride, membership, and challenge. Engagement is considered the positive opposite of burnout, which is a known contributor to absenteeism and turnover intent (Schaufeli & Bakker, 2003).

911 call center: This refers to a call center that exclusively receives emergency calls through the use of the three digit phone number 9-1-1. 911 call centers have the unique and sole authority to dispatch first responder services to in progress, emergent situations with complete decision autonomy related to the response authorization (NENA, 2010).

Assumptions and Limitations

One of the more critical limitations of this study is that the responses surrounding the dependent variables such as absenteeism are exclusively based on respondent self-reporting. Researchers suggest that this basis may increase the potential for relationships between specific variables such as job demands and resources and workload and involvement, respectively, to be a result of common method variance (Bakker, Demerouti, & Schaufeli, 2003). Bakker et al. (2003) noted that scholars recommend controlling for negative affectivity when doing any job stress research.

Common method variance can occur in self-reporting in particular on job stress where a respondent may represent that they experience high stress and thus may also

report low job satisfaction that may be related to some other, third variable (Kline, Sulsky, & Rever-Moriyama, 2000). In this study, it could have been an issue of inclusion or consideration of an extraneous variable that could affect the JD-R model among key variables not accounted for in the model. However, by using a measure of job satisfaction as an alternative mechanism to control for negative affectivity, Bakker et al. (2003) found only a slight influence on the estimation of the JD-R relationships. Thus, these researchers were able to conclude that controlling for affect did not generate different research results that would impact the study (Bakker et al., 2003).

There is an inherent assumption of accuracy or honesty in self-reporting. However, variables such as absenteeism would be measured more confidently by obtaining and analyzing employee records. In the areas of absenteeism length and duration, actual records would likely reduce the effects of over or underreporting by employees. Edited employee records that meet privacy standards are within the reach of public records requests. However, the process is both potentially lengthy and a significant drain on organizational resources. It is encouraging to note that previous studies' validity coefficients indicate that the correlation between self-reported absenteeism, the measurements of records, and various measures of commitment suggest no significant differences between self-reporting and employee records (Bakker et al., 2003).

Without direct access to records, exit interview data, or those employees who have left voluntarily or who have been terminated in the past several years, the study focused on the issues of turnover intent with existing employees. This also relies on self-report of intention to turnover. It is important to keep self-reporting in perspective given

the previously stated issues and considerations of self-report versus some analysis of actual turnover records, including exit interviews.

This specific study was limited to the examination of a relatively small sample of 911 call centers along the west coast of the United States. Further, the study was limited to four specific job demands and four job resources as determined for a Dutch telecom company study. As such, the findings of this study would not necessarily capture those critical job characteristics of 911 call centers that could be identified through a qualitative precursor study with a more representative national sample of all 911 call centers.

A more practical limitation of this study that should be considered is the possible effect of the current, protracted economic recession on individual workers' desire or willingness to leave their job, regardless of their emotional state or the working conditions. With a national unemployment rate hovering around 10% and a similarly high rate for Washington State and the West Coast, it would be appropriately cautionary to assume that intentionally leaving one's job or even indicating intent to leave, without significant cause, could be skewed by economic fears, both current and future.

This observation is highlighted by considering the critical drivers cited in the APCO study (Taylor, Gardner, & McCombs, 2005). The survey data was gathered between 2003 and 2005 when the United States economy was peaking. Respondents cited poor pay as a primary driver of turnover over more taxing shift responsibilities and pressures. While the anonymity of participant employees has been protected in this study, it is still reasonable to assume the possibility of point in time psychological states related

to basic human needs and economics that may skew responses in the current economic climate over better times.

Finally, there is complete lack of current or ongoing industry-wide research or data for 911 call centers, such as total number of employees in the segment or centralized public data around staffing, attrition, overtime expenditures, shifts, and total annual calls per receiver. It is worth noting, however, that in addition to the two studies commissioned by the Association of Public-Safety Communications Officials–International (APCO) in the past decade, several 911 call centers, such as LESA in Pierce County, Washington, and the San Francisco Department of Emergency Management's Emergency Communications Division, have undertaken exhaustive internal reviews of their organizational climate and have examined turnover and retention in the broader operational context.

This limited base of industry and academic knowledge does restrict the opportunity to research and consider the most basic questions and answers around 911 call centers as a social phenomenon or job structure among the universe of call centers. While it is not a criticism of the 911 industry or individual operations, the lack of data puts significant limits on the broader base of knowledge that could support this very narrow and specific segment of an existing global industry.

Scope and Delimitations

The scope of the proposed study was limited to the specific job demands and job resources applied to and examined through Bakker, Demerouti, and Schaufeli's (2003) Dutch Telecom call center study. Their research specifically followed a design that first

examined qualitative inputs from call receivers and supervisors to determine those job demands and resources in a call center environment that were the most critical in the context of absenteeism and turnover intention. This study was not able to confirm qualitatively through discussion and interview techniques that these same job demands and resources applied to a 911 call center identically match those used in the Dutch study. However, they appear to be the only call center JD-R variables that have been examined and validated in the academic research literature, providing a significant opportunity to apply these variables in a quantitative comparative analysis in a 911 call center.

Employing Structured Equation Modeling (SEM) analysis, the underlying study was also designed to examine and test the predictive capability of a dual process role of the JD-R Model on several additional levels that was not applied to this study. An English translation of the original Dutch language version of the Bakker, Demerouti, and Schaufeli (2003) survey instrument was edited to only apply those questions that specifically provide data to examining the job demands and job resources in their respective relationship to call center absenteeism and turnover.

This study was limited to a relatively small sample of 911 call centers in the Pacific Northwest and West Coast of the United States. While a more significant and geographically representative sample would have been more desirable, the time and resource limitations of this study prevented the undertaking of a broader national effort. However, the research project overall provided the opportunity to reach out nationally and internationally to stakeholders in the 911 call center business, the broader call center

industry, and among researchers and governments who have researched the broader global topics of absenteeism, turnover, and call centers generally.

Generally, the objective of this project's design was to obtain the critical minimum number of completed surveys sufficient to examine descriptive data with statistical credibility. The survey instrument was administered with appropriate privacy and anonymity protections through a discrete web site and a link directly to a secure server on SurveyMonkey. This provided the opportunity to at least code the data by specific 911 call center location so that the research can be shared with individual participant organizations and key stakeholders.

Significance of the Study

The research is justified in that there is but one known 911 call center study, a United States Department of Justice funded research project conducted by the Association of Public-Safety Communications Officials (APCO), an industry trade association. The APCO study addressed turnover-related questions in this narrow public sector segment, but its primary research objective was focused on staffing and retention issues generally (Taylor et al., 2005). There are no known independent academic studies related to 911 call centers or specifically the topic of turnover in a 911 call center. The APCO study addressed employee hiring and retention via surveys administered to 600 call center call receivers and 143 managers from the over 6,100 emergency 911 call centers in this country (Taylor et al.).

In the United Kingdom, a significant body of work exists around a more global public safety concept of contact management, which recognizes the emergency call or

any call for assistance, as the critical first contact. Dating back to 2001, the British government has conducted an exhaustive examination of the social and operational implications of the over 67 million annual calls for assistance from across the UK (HMIC, 2005).

Her Majesty's Inspectorate of Constabulary (HMIC) and the National Policing Improvement Agency (NPIA) concluded that the social significance of their effort evolved from the overwhelming finding that the most important contact that the public has with the police service that creates the most lasting community impression is the initial phone contact made in an emergency (NPIA, 2010). To that end, and notwithstanding the consideration of fire, medical, and other emergency responders, the individual, community, and more global social impact of an emergency call is both lasting and affective. Yet beyond the substantive research, benchmarking, analysis, and planning, the effort in the United Kingdom suggests only possible avenues for consideration in the social implications of 911 call centers given the complete lack of U.S. study.

The breadth and depth of study around call centers worldwide and across public and private sectors is significant and almost surprising given the relative infancy of the profession. It is growing, evolving, adapting, and emerging at a pace seemingly driven or perhaps more accurately, only limited by the technology that defines the parameters of its social and economic use. Russell (2009) and Holman, Batt, & Holtgrewe (2007) have provided authoritative global reviews of the industry, suggesting that the long term social

implications of call centers as a job structure is significantly under-studied and under-valued given the complexity and incredible pace of change in the business.

Given the stated public interest in call centers from a social and economic perspective, this study offers an additional level of insight into 911 call centers in the United States. The emergency 911 call center service can represent an invaluable instrument in directly linking the public to the intended self-management of its own health and safety. A review and discussion of existing literature and research followed by a quantitative analysis of those factors related to absenteeism and turnover intention in the broader call center industry may provide future researchers with some measure of input and direction related to additional 911 call center study.

Organization of the Dissertation

The literature review in chapter 2 addresses the global perspectives around the critical factors and concepts attributable to absenteeism and turnover in the call center industry. The theoretical perspectives related to job demands and job resources and engagement will also be examined. Russell (2008) noted that one of the under recognized aspects of call centers is their role in technology development, human communications, social expectations, and socio economic influences in job and work design. As the work model emerges more toward increased job discretion and autonomy and worker psychological identities related to specific industries, it is also conceivable that theories such as self-leadership will begin to enter the call center discussion. These ideas are relevant to the JD-R model and the specific theoretical relationships in the literature that can be applied to the 911 call center environment.

In chapter 3, the focus is on the design and methodology of the research study. This includes descriptions of the quantitative objectives, target population, sample, and measurement/survey instruments and their validation, as well as data collection and analysis procedures and methods. Chapter 4 includes details of the data collection and analysis, as well as the findings of the study. Chapter 5 contains a discussion of the results, possible avenues for additional study in the 911 call center segment, recommendations for improving practice in 911 call centers, and a description of the project's contribution to social change.

Chapter 2: Literature Review

Introduction

Chapter 2 provides a historical perspective around the call center as a relatively recent global socioeconomic phenomenon and a new form of work organization. Through a public and private applications lens, this overview concludes with the 911 call center and its distinct and separate role as a public service entity. The historical review presents a critical discussion of the work form of call centers in the context of broader theoretical concepts identified in the research literature. The discussion involves the operational and psychological conflicts commonly identified with call center work as a Taylorized, machine-driven labor process doing battle with an underlying human instinct to insert emotion and self into the job (Moss, Salzman, & Tilly, 2008).

The literature review considers the theoretical context of working conditions that may affect absenteeism and turnover intention. The discussion also addresses the only known national 911 call center study that focused on the topic of employee hiring and retention. The overarching objective of chapter 2 is to present and critically evaluate those theories, past studies, and established characteristics that are applicable to the research question of whether or not there is a relationship between specific working conditions and absenteeism and turnover in 911 call centers.

Search Strategy

Information to support the literature review was obtained from a variety of electronic databases accessed through the Walden University online library system. Additional searches were conducted via key word mining and targeting through Google

Scholar. Web sites for the National Emergency Number Association (NENA) and the Association of Public-Safety Communications Officials-International (APCO) were accessed for historical and other relevant data related specifically to 911 call centers. Additionally, direct contact was made with representatives of both organizations in order to determine the status and availability of any applicable research. This contact uncovered a relatively current national study of the 911 call center industry; a two-part Department of Justice and trade association effort conducted between the years 2003 and 2005. The academic literature did not uncover any specific 911 call center research other that a 2005 conference paper that examined police contact centers in Great Britain.

Through direct contact, the Gallup Organization shared a copy of their Q12 Meta-analysis, which provided broad insight into turnover in the context of work engagement. Access to their survey data was requested for the purposes of this study. However, the Gallup Organization severely restricts access to or the use of its data for independent research purposes without the engagement of their management consulting division. A variety of books were obtained and reviewed including the only two known publications on the global call center industry.

Direct contact established with several published scholars in various topical areas, including call centers, work engagement, public contact management, and job demands and resources research and model application, provided direction and access to a variety of data, validated research instruments, and other applicable sources. Among a variety of content, this contact effort also yielded subject matter direction and literature from Her Majesty's Inspectorate of Constabulary (HMIC) and the National Policing

Improvement Agency (NPIA) of the British Government as well as two published studies on the call center industry covering the United States and a global industry review.

Call Centers in Perspective

In contemporary American society, it is probably reasonable to assume that most adults with regular access to a phone would have had at least one if not multiple experiences involving an interaction that included a call center—whether they knew it or not. It is probably less likely that the same sample of adults would also lay claim to having made multiple 911 calls. Yet it would be reasonable to assume that most adults in the U.S. with regular phone access could probably tell you what telephone number to use in an emergency and would likely tell you the number 911, as it is recognized as the most widely known and frequently used phone number in the U.S. (Taylor, Gardner, & McCombs, 2005). Yet, as has been noted, there is very little public data available on the 911 call center for the purposes of research and academic study (Taylor et al., 2005).

A more global understanding of call centers is reflected in the commonality of the interaction. A call center event, regardless of the size or mechanization of the operation, is still essentially a one-on-one transaction between the caller and the call taker in a process mediated by computers and other forms of information technology (Valverde, Ryan, & Gorjup, 2007). What makes the advent of telephone-based information services socially significant is the mere fact that the experience is without spatial or geographic limitations, allowing for an ever changing psychological state of engagement on both ends of the transaction (Bain, Taylor, & Dutton, 2005; Russell, 2008). The call center interaction is viewed now as a commonplace social event where it is acknowledged that

the calling public has an expectation of just how those interactions are supposed to take place based on experience and the type of organization involved on the other end (Russell, 2009).This nuance provides the opportunity to explore the call center phenomenon from social and organizational structure as well as strategic human resource and work management perspectives (Russell, 2008).

Personalizing the experience by first establishing a generalized, anecdotal perspective provides some measure of time around the existence of call centers in contemporary society. Going forward, there is a central assumption in this study that calling 911 is grounded in a broad expectation in the United States that technologies integrated with human response and behavior will ensure that one can instantly and directly engage and dispatch various life safety services in response to any emergency event (Association of Public-Safety Communications Officials-International (APCO), 2010; Bain et al., 2005; National Emergency Number Association (NENA), 2010). It is a generational assumption that appears to be neither supported nor even discussed critically in the academic literature, unfortunately. Given that consideration, looking back 50 short years into a typical 1960-era home:

- There was probably one hard-wired phone on a table and eventually, the wall.
- *Party lines* existed where multiple households in the neighborhood shared access to one phone line at the same time.
- The refrigerator or cupboard might have had an *emergency numbers* list taped to it that included individual telephone numbers for:
    - Police

  - Fire
  - Ambulance
  - The family doctor
  - The hospital

- Possibly unsure of what to do or who to call, the first instinct would be to dial *O* for the operator as both the information and knowledge source and the short-cut link to emergency help.

In 1957, the National Association of Fire Chiefs proposed that a three digit number be created as the code for emergency response. In 1973, the White House Office of Telecommunications distributed a policy statement encouraging the formal, national adoption of the 911 number as the national standard for emergency response. And by 2000, 96% of the United States population was estimated to be using the 911 number for help (NENA, 2010; Taylor, Gardner, & McCombs, 2005). By contrast, the 2007 global call center report identified the typical commercial call center as being only 8 years old (Holman, Batt, & Holtgrewe, 2007).

Call Centers: An Emerging Work Form

The first discussion in this chapter is one of the newness of the call center as a form of social organization, order, and work form. It is important to contextualize the rapid development of this technologically-bounded service delivery format. Researchers have been examining call center operations as a socio-economic evolution, and particularly, as a new, global form of work organization (Moss, Salzman, & Tilly, 2008). Russell (2009) noted that commercial call centers, and public call centers, to a lesser

degree, have enjoyed a substantial level of study given the fact that the work and the organizational unit forms are very new. In contrast, very little seems to be known academically of the 911 call center given its social significance (Taylor, Gardner, & McCombs, 2005).

Other research brings to light the complex considerations of the business unit, public and private, noting not so delicate nuances of a work form that incorporates extreme operational descriptions from tightly supervised and surveilled call-taking assembly lines to flexible, autonomous, and emotion-driven customer relationship management centers (Wickham & Collins, 2004; Zapf, Isic, Bechtold, & Blau, 2003). Researchers such as Wickham and Collins (2004), Moss et al. (2008), Holman, Batt, Holtgrewe (2007), and Russell (2008, 2009) have examined the emerging and changing social complexities of call center work. What is clear, is that the broader social context of the call center, regardless of its economic roots, represents a significant shift in how the concept of customer relationships and service exist in contemporary society as a volume-driven, one-to-one experience (Anderson, Pyman, & Teicher, 2007; Ellis & Taylor, 2006; Russell, 2008, 2009; Taylor & Bain, 2007). Research efforts around how the work is designed, executed, and managed also provide a backdrop for examinations of complex variables related to absenteeism and turnover as global industry problems.

Dynamic Interactions

When contemplating the academic challenges relative to a 911 call center, it is worth considering the potential biases and conditioning of the general population related to expectations of how call interactions in a commercial or public sense are supposed to

work. Do those routinized interactions, which are now commonplace, drive an underlying expectation of how all calls, including 911 emergency calls, should happen? Or do emotionally-charged, emergent circumstances change the rules of engagement, naturally overshadowing people's expectations based on their routinized call center interactions in a constantly evolving service system? The quantity versus quality conflict identified in the call center literature is not uncommon to public sector call centers and plays a distinct role in established performance standards in 911 call centers (Anderson, Pyman, & Teicher, 2007; NENA, 2010).

Wickham and Collins (2004) observed that the consumer or caller has also been defined by the underlying work and work process that is continually evolving from call center operations, giving the experience a new form of self-directed market management. A time consciousness has evolved from the very labor process of call center and customer interactions such that a new genre of performance measures has emerged around very specific behaviors:

- availability to take or make calls
- time management on calls
- time on calls
- non-call time (Russell, 2009)

These performance parameters drive both consumer behaviors and expectations as well, noted by Russell (2009) to be a contradiction of the Tayloristic design of the call center labor process and acknowledged intent of the call center as economically and socially efficient. This form of socialized conditioning or *habituation* is difficult to

ignore; we expect to and accept being put on hold in one call experience scenario where a life may be lost if this same logic were applied and accepted in a 911 call center (Wickham & Collins, 2004).

The call receiver is constantly evolving as a result of their interaction with the market consumer as their mutual demands and skills are pushed by an ever changing set of expectations and related behaviors (Moss, Salzman, & Tilly, 2008; Wickham & Collins, 2004). This natural evolution of relationship complexity is challenging early research assumptions that all call centers were psychologically draining and exhausting white collar sweatshops plagued by habitual absenteeism and turnover (Moss et al., 2008). It is difficult to ignore, however, an unending litany of descriptions of call center work characteristics in the research literature as involving control, repetition, surveillance, intense emotional regulation, and constant monitoring (Holman, Frenkel, Sorensen, & Wood, 2009; Robinson & Morley, 2006; Rose & Wright, 2005; Sawyer, Srinivas, & Wang, 2009; Townsend, 2007; Valverde, Ryan, & Gorjup, 2007; Wickham & Collins, 2004; Zapf, Isic, Bechtold, & Blau, 2003).

Viewing the relationship of call receiver and the calling public as a give and take process of mutual acculturation suggests that contrasting and converging expectations related to the call center experience, at both ends of the transaction, may be changing and influencing our experience related to social interactions between organizations and individuals in ways not fully realized (Taylor & Bain, 2007) . They may also be influences that directly impact how our future safety and security will be managed (Bain, Taylor, & Dutton, 2005; Zapf, Isic, Bechtold, & Blau, 2003). The calling public's

behavior links us all inextricably as actors and players in how this industry evolves and unfolds, including how those who receive the calls cause the work form to evolve (Wickham & Collins, 2004).

Evolving Labor Process

Russell (2009) examined aspects of the call center labor process, noting that a new genre of employee performance measures were required. He argued that the work form itself creates a new theoretical construct and the mechanism to break down the call receiver job into its component job cycle parts. As a techno-mechanized bureaucracy, a new design to define the call receiver process had also to account for the elimination of spatial limitations and needs. The call center literature generally agrees with and describes the work in the context of Taylorism, an industrial work and assembly line process where human labor is generally described as routinized, repetitive, and monotonous (Anderson, Pyman, & Teicher, 2007; Bain, Taylor, & Dutton, 2005; Ellis and Taylor, 2006; Russell, 2008, 2009). Within that general theory of how the work is organized and perceived as scripted and mechanized, the entire concept, from a work process and operational perspective, theoretically contradicts the grander operational goal of customer service improvement (Ellis and Taylor, 2006; Russell, 2009; Valverde, Ryan, & Gorjup, 2007).

The technological inevitability that created call center work is controlled more by corporate evolution theory such that organizations must continually seek out or develop themselves the most effective means and methods to re-optimize their way of conducting business (Moss, Salzman, & Tilly, 2008). As such, there are arguments that the work and

the workers must adapt to determinist means, such as call center technologies, in order to actuate the re-optimization process and allow the organization to leverage its resources of labor, technology, and internal control systems (Jack, Bedics, & McCary, 2006; Moss et al., 2008).

Other views suggest that technological determinist theory lagged the more pressing socio economic market drive that leads by creating information technology work process behaviors evolved by workers in an information technology space where call centers exist (Russell, 2008, 2009). In the call center work structure, new ways and methods to communicate ultimately lead to new forms of self-directed and individualized customer service behavior (Bordoloi, 2004; Doellgast, Batt, & Sorensen, 2009; Halliden & Monks, 2005; Holman, Frenkel, Sorensen, & Wood, 2009; Rose & Wright, 2005; Russell, 2009).

As one example, emerging levels of discretion exercised by workers can be influenced by the internalized conflict associated with various occupational hierarchies and emotional drivers, such as in nursing. In spite of operational parameters and limitations inherent in the call technology and management structures, such as guided health interviews scripting, nurses have demonstrated an inclination to default to the needs of the customer as a natural response from their training as well as psychological motivations of the work (Smith, Valsecchi, Mueller, & Gabe, 2008). These departures are allowed from the point of view that a tele-nursing intervention is more like any routine call center service call, requiring a one-time interaction and involving no long term, one-to-one relationship (Smith et al, 2008). In the call center environment specific to nursing,

it is further theorized that the integration of trained knowledge, embodied or experience-based knowledge, and a new, encoded, technology-based knowledge, has created a unique machine bureaucracy (Smith et al., 2006). The process controls create an identifiable conflict between conventional and intuitive, practice-based autonomy and individual control and the Taylorist principles of direct control. However, it has grown, evolved, and seems to have worked as the technology and the practice integrate and mature (Smith et al.).

Socialization of Technology

Our common, contemporary experience helps this concept to unfold. It is not unfathomable that a middle school-age child in the U.S. who has a personal cell phone with a camera or video capability, potentially holds the social power, presence of mind, and the skill set to capture a variety of social events which could include a goal at the soccer game or a serious accident scene, a friend being bullied, or some other critical incident. This same child may also know how to dispatch the video, still photo, or audio, to some public, social media forum that can ignite any number of social responses. Given the emerging technical capacity, there are implications for the entire social concept of life safety response and even crime deterrence as the technologies and the behaviors they drive, continue to emerge (Anderson, Pyman, & Teicher, 2007; Bain, Taylor, & Dutton, 2005; Ellis & Taylor, 2006; Taylor & Bain, 2007).

In that sense, the 911 call experience, from the perspective of both a sender and receiver, can be more richly considered via what Russell (2008) aligned in the call center's social significance as technological determinism. As such, there is an inherent

Taylorist DNA in call center work driven by the fact that the technology, irrespective of the application, drives the work design and methodology required to achieve the goal of the technology to begin with (Russell, 2009). This concept drives the tension discussion and establishes the relevance of underlying variables related to turnover and absenteeism such as job discretion and autonomy and production efficiency and cost containment.

Management Theory

In contrast, call center research focused on strategic human resource management (SHRM) theory has examined the critical relationships between caller and call receiver in the private sector in an effort to manage the growing complexity of mutual expectations that are driven by the call experience (Holman, Frenkel, Sorensen, & Wood, 2009). Strategic choice and work design theory posit that managers and institutionalized organization structures define the rules, norms, and structures of how work is ultimately performed.

Specific to call center jobs, working condition variables, such as low levels of individual discretion and high, intrusive levels of monitoring, contribute to both absenteeism and turnover (Holman et al., 2009). Applying a general contingency theory to the concept of fitting job design to customer needs provided a mechanism to examine the predictive nature of specific working conditions in relation to call takers and call makers (Holman et al.). The findings suggest that designing conditions such as discretion relevant to the task and constructive feedback over intense monitoring directly correlate to reductions in absenteeism and turnover intention as a general theory of fitting the job

both to the external customer and the internal customer interface, such as a call receiver (Holman et al.).

Because of the lack of research around 911 call centers as a work structure, it is logical in this chapter to briefly address parallels suggested by the literature in several areas, including the public sector and call centers related to emotion work such as tele-nursing. Mueller, Valsecchi, Smith, Gabe, and Elston (2008) found that the work in call centers, such as those involved in nursing and other sophisticated knowledge-based service delivery environments, needed to be considered in the context of the professional values that defined the call receivers and how they defined their role in call center work. As interactive customer service work, they argued that understanding a complex call center *identity* involved integrating broader ideologies and models which included (a) consumerism or market control, (b) professionalism or professional control, and (c) managerialism or bureaucratic control (Mueller et al. (2008).

There are substantive social implications considering an emerging dependence on this technologically driven work form and certainly a call for additional social researcher attention (Russell, 2009). Another study, for example, might one day examine a variety of mortality rate impacts that may be directly attributable to emerging emergency response services and capabilities available telephonically and through emerging, enhanced mobile communications services.

Emotional Labor

Witt, Andrews, and Carlson (2004) examined the effects of emotional exhaustion and the psychological demands associated with call center work. Their research strategy

was to correlate conservation of resources (COR) theory as it relates to emotional exhaustion and the prediction of customer service quality, which is noted as a behavioral consideration in call center work. COR theory suggests that workers become emotionally exhausted when they do not have sufficient job resources to meet the demands of the job (Witt et al., 2004). In their study, job resources included types such as social support, autonomy, job control and discretion, and inclusion in decision making (Witt et al.). Of significance is their inclusion of work demands such as role conflict and ambiguity, role overload and work pressure, and stress.

Not unlike many types of blue collar production line work, call centers are similar in that calls come at the call receiver one after the other, facilitated by technologies that cascade calls to the next open line and available call receiver (Bain, Taylor, & Dutton, 2005; Sawyerr, Srinivas, & Wang, 2009) . However, call center work earns its unique description as an *assembly line in the head* because of the abstract removal of the call receiver and caller from direct, visual contact described as an environment where space and geography simply do not matter but a constant production line of cascading calls still exist (Mueller, Valsecchi, Smith, Gabe, & Elston, 2008). Job structure analysis of call center work points to a complex and substantial form of interactive customer service work driven by (a) a relentless flow of calls, (b) high repetition and monotony of task, and (c) an infrequency of physical and mental breaks create a pressurized, intense, and emotionally stressful work environment and experience (Mueller et al., 2008).

Contrasting Witt et al. (2008), in studying 24-hour call center nursing helpline work, Mueller et al (2008) conducted interviews and made observations in over 20

centers for a case study to examine the attitudes, compromises, and potential conflicts driven by emotion work professionals who were commonly limited by the traditional call center management bureaucracy and technological environment. The study revealed aspects of the quantity versus quality conflict associated with call center work and the emotional stress and conflict that is uniquely found in the nursing profession where the nature and need behind each and every call is likely different and unpredictable (Mueller et al). Additionally, the study uncovered also-unique behavioral displays from nurses given the acute, individual awareness of the potential for each call to represent a life and death situation. The research highlighted theoretical linkages related to self-directed behaviors such as display autonomy and individualism (Mueller et al., 2008). The analysis is noteworthy given the situational variables such as the in-moment pressure and tension driven by the emotional and professional resolve to help some invisible yet interpretable life on the other end of the call (Mueller et al.).

In the tele-nursing case study, call time and efficiency objectives are disrupted by professionalism, individualism, and a situational operating environment that differentiates emergent call center work from traditional commercial operations. Mueller et al. (2008) observed that emotional and conflict driven displays of autonomy contributed to distinguishing highly trained professional nurses in call centers by creating a specific emotional and occupational work identity. Their recommendations for future study suggested that professional self and identity in the context of serving others creates a meaningful mechanism for executing call center work in an empathetic, caring, and

emotional means regardless of the working conditions created by management structures and technological intervention (Mueller et al.).

Absenteeism and Turnover

Areas of agreement in the research around the global topic of call centers include a couple of key attributes of call centers that may be summarized as follows:

- Call centers are a new emotional labor service work form that has substantive socio-economic and socio-technical implications.
- The conflict of quality versus quantity in the delivery of the service is generally
    - driven by an intentional, Taylorized work process
    - created by the underlying technology's direct intervention
    - has outcomes subject to controlled yet unpredictable behaviors between humans on each end of a call.
- The unresolved social and operational conflicts, absenteeism, and turnover that are common to all types of call centers create a strategic impediment and undermine a core objective of this service form, which is cost containment, efficiency, and effectiveness (Anderson, Pyman, & Teicher, 2007; Bain, Taylor, & Dutton, 2005; Batt, Doellgast, & Kwon, 2004; Holman, Batt, & Holtgrewe, 2007; Jack, Bedics, & McCary, 2006; Moss, Salzman, & Tilly, 2008; Rose & Wright, 2005; Russell, 2008, 2009; Townsend, 2007).

Reasons and explanations for absenteeism and turnover vary greatly in the call center literature, with the lack of agreement driven by broad factors that include:

- differences in call center operational models
- differences in labor structures
- differences in industry applications and needs
- differences in end user needs
- globalization, cultures, and competition
- mismatches in hiring standards, customs, and practices leading ultimately to poor employee job and employee organization fit (Holman, Batt, & Holtgrewe, 2007; Nyberg, 2010; Lambert & Hogan, 2009; Russell, 2008; Siong, Mellor, Moore, & Firth, 2006; Whitt, 2006).

Operationalizing the Conflict

There are practices found in the literature which contribute operational contradictions to these accepted propositions. Robinson and Morley (2006) examined the classification and ranking of key performance indicators (KPI) as both perceived and practiced by call center line supervisors and managers. In a study of major Australian call centers, deliberately task-focused management attitudes and beliefs kept absenteeism and turnover rates high. Managers accepted high absenteeism and turnover as an intentional consequence of what was ultimately coined as a sacrificial human resource management (SHRM) strategy (Robinson & Morley, 2006; Russell, 2009; Townsend, 2007).

The theory in practice states that the underlying management objective is to intentionally sacrifice call receiver performance and engagement in order to meet efficiency and service delivery goals at the ultimate expense of employees' emotional well-being (Robinson & Morley, 2006; Russell, 2009; Townsend, 2007). The measured

employee outcomes of this practice include high levels of stress, burnout, and ultimately, management-driven turnover (Robinson & Morley, 2006).

From the analysis and interpretation of qualitative and quantitative data obtained from interviews and surveys, the SHRM practice was viewed to be (a) strategic, (b) efficient if managed through a continual and relentless hiring practice, and (c) sufficient to meet and sustain organizational performance goals (Robinson & Morley, 2006). The underlying conclusion was that although controversial, the *sacrificial* side of the SHRM practice was mostly acceptable (Robinson & Morley, 2006; Russell, 2009).

Townsend (2007) addressed the proactive application of the sacrificial strategy in a study of call center recruitment and employee management practices in a public utility agency in Australia. The research focused on the right fit of employee to job and organization via the social capacity of call receivers being able to handle high stress, emotional labor. The study highlighted a deliberate integration of the sacrificial practice into a human resources strategy as a means to address a growing public demand for both call center services and the necessity to find and keep an adequate supply of employees qualified for working in an emotional labor environment (Townsend, 2007).

Similarly, Wood, Holman, and Stride (2006) examined strategic human resource management (SHRM) theory applied to the call center environment. Applying SHRM theory, they hypothesized that there would be a cohesive link from an organization's strategy, market, and operations that would ultimately drive job design and total human resources management. Furthermore, call center operations practices would generate a measurable outcome to the organizations goals through the behaviors, or productivity and

performance, of its call receivers (Wood et al., 2006). The research data found no support for their original hypotheses regarding the SHRM chain as a linear process in total organizational strategy and performance applied to call centers. However, the research effort did also reinforce Robinson and Morley's (2006) conclusions that (a) call receivers are strategically disposable in highly controlled and surveilled work design settings where there is a significant labor pool of intrinsically motivated candidates, and (b) this strategy can succeed when call center managers are primarily focused on their operational requirements designed to deliver specific organizational goals and targets. Additionally, strong work design links were supported between (a) interaction control, performance monitoring, and absenteeism, and (b) task discretion and turnover (Wood et al., 2006).

The Intentional Paradox

Such management theories exist in practice and in parallel with a job design and operational construct where individual levels of control may often be driven by (a) the technology involved, (b) the continuous public demand in terms of call volume, and (c) a managerialism driving the implementation of call center-relevant organizational objectives (Russell, 2009). In approaching the existing research behind absenteeism and turnover, it is appropriate to view the complexity of the call center environment through a theoretical lens where emerging and competing philosophies collide in such a manner that continues to sustain the ongoing call center operational dilemma of quality versus quantity (Russell, 2008). In spite of the limited if not complete absence of research, it is hypothesized that this global conflict theory around call centers in fact applies to public

sector call centers and police call centers as well (Anderson, Pyman, & Teicher, 2007; Bain, Taylor, & Dutton, 2005; Taylor & Bain, 2007).

Mastracci, Newman, and Guy (2006) noted that complex, relational work being advocated as a new form of government customer service, had not yet been given any critical examination in public service or public sector professions. In the call center context, emotional labor has been under-recognized and under-rewarded in jobs serving the public. In seeking intrinsically motivated and highly social individuals, there is an identified psychological conflict related to call center work design (Mastracci et al., 2006). The emotional labor aspect of the call center work form creates pressure to regulate, act out, and overtly project a positive persona and attitude continuously on the phone. Under this design, the call receiver is also under pressure to meet specific time and performance objectives that are generally quantitative in nature, presenting a dilemma of individual control in the broader social sense (Adomaitiene & Slatkeviciene, 2008; Rose & Wright, 2005; Sawyerr, Srinivas, & Wang, 2009).

Deci and Ryan (1987) posited that behavioral intentionality had two key constructs (a) those intentional behaviors which are initiated and regulated by choice as a means of self-expression, and (b) those intentional behaviors that are pressured and coerced by forces that do not represent true choice. Controlling forces, such as threats, deadlines, monitoring, and surveillance, are known to regulate behaviors (Deci & Ryan, 1987). As the psychological counterpoint to autonomous inclinations, such controlling forces applied to call centers are consistent with the discussion of sacrificial human

resources, but are highly contradictory in that they are the types of variables that are known to undermine true intrinsic motivation (Deci & Ryan, 1987).

Rationalizing the practice of intentionally working intrinsically and socially motivated employees to the point of burnout and driving turnover to sustain organizational performance objectives is counter intuitive given global research findings which clearly indicate that turnover and absenteeism in the call center industry are acute economic and operational problems challenging the core objective of call center efficiency (Holman, Batt, & Holtgrewe, 2007: Russell, 2009). Sacrificial personnel management practices alone create, if nothing else, an extremely complex organizational and employee work environment. The more encompassing paradox remains the quality versus quantity tension that inherently evolves from the conflicts of the technology, management governance and organizational objectives, and the human interface created by call receivers (Russell, 2008, 2009).

This dilemma is relevant in the 911 call center space. The work in a 911 call center is emergent and emotionally charged, where seconds, questions, and decision making can mean life or death. On the one hand, there is an overarching performance objective driven by Public Safety Answering Point Standards for mandatory emergency call answering times. The goal is to answer calls within strict time parameters to reduce waiting times (APCO, 2010; NENA, 2010). This is logical considering that the next call may hold a life in the balance. However, it is also results in 911 call receivers having little discretion regarding when to exit calls, even if it means cutting the time they spend with citizens whom they may perceive they are helping. The fact that the existing, albeit

scarce, research indicates that 911 call receivers are doing the work first because they want to help people (Taylor, Gardner, & McCombs, 2005) further underscores the dilemma over quantity versus quality in the 911 call center environment.

Absenteeism

Absenteeism is recognized as a very high direct and indirect cost to organizations that manifests itself through both sickness-related and other factors (Navarro & Bass, 2006). Absenteeism can be voluntary in nature, such as a vacation or other deliberate act, or involuntary as a result of unavoidable circumstances such as physical or psychological illness (Avey, Patera, & West, 2006). A consistent outcome of absenteeism in any form is the potential pressure it puts on managers, supervisors, and workers to sustain productivity, which can include (a) adding extra work to those who are at work or otherwise increasing workload, (b) using overtime, (c) using temporary or substitute workers, or (d) choosing not to do certain work (Avey et al., 2006).

Trade researchers noted that the additional indirect costs associated with absences, which include lost productivity, quality of customer service, and various employee morale and performance issues, contribute to a substantial aggregate economic and operational cost for all organizations (Navarro & Bass, 2006). Analysis of employer and employee surveys across a variety of industries indicates that the total cost of absenteeism, combining both direct and indirect factors, can amount to as much as 15% of payroll, and that 65% of unscheduled absences are found to be for reasons other than sickness (Navarro & Bass, 2006). Navarro and Bass (2006) also found that higher absenteeism drives overtime by as much as 20% above normal industry averages,

contributing to the theories that pressure and stress then increase for fewer workers required to do extra work and work excessive overtime.

Turnover research models specific to call centers indicate that if the extra work, driven by factors such as absenteeism, is not handled with temporary help or appropriate levels of overtime staffing, there are direct, negative effects on callers in the form of reduced accessibility, longer times spent on hold, and rushed thinking, behaviors, and interactions that can lead to serious errors in judgment and performance (Hilmer, Hilmer, & McRoberts, 2004). Protracted psychological distress can also lead to increased time taken off of work as both voluntary and involuntary absence. However, workers may also compensate by making up for lost time through increased overtime or voluntary work time to avoid adverse performance reviews (Hilton, Sheridan, Cleary, & Whiteford, 2008).

Surveying over 54,000 workers, Hilton et al. (2008) discovered that traditional absenteeism hypotheses did not take into account the relationships that existed between an overcompensation effect of extra work and stress and escalating symptoms of mental illness. As psychological stressors turn into mental health issues, some workers will have to work longer and harder to keep up with and complete their routine tasks, but will maintain total productivity (Hilton et al.).

The long term outcome, mental disorder-driven disability, was found to be a leading cause of increased absenteeism (Hilton et al., 2008). As mental health issues increased, absenteeism increased, driven by factors of evolving impairment around:

- attention

- motivation
- decision making
- social relations (peers and supervisors)
- memory
- concentration (Hilton et al.).

Other turnover model survey research focusing on call centers supported the arguments that continuous stressors driven by various working conditions are the precursor drivers of high levels of absenteeism and, ultimately, turnover (Siong, Mellor, Moore, & Firth, 2006; Bain, Taylor, & Dutton, 2005). Siong et al. (2006) further observed that these factors, as precursors to both intention to quit and ultimate turnover, include too few workers and too much overtime coupled with the job design pressure to answer calls within time limits while maintaining a positive emotional state in the form of role ambiguity.

Noting that understanding of voluntary and involuntary absenteeism is limited and unclear, Avey, Patera, and West (2006) narrowly applied voluntary absence from the perspective of vacations and more traditional views as an employee benefit. Attributing 60% of measured absenteeism as involuntary, the high tech field study drew upon positive psychology and positive organizational behavior theories to build upon psychological capital related to all absenteeism (Avey et al. 2006). The psychological capital (PsyCap) theory suggests that focusing on individual PsyCap components, comprised of resilience, optimism, self-efficacy, and hope, provides access to a composite state that is open to developmental interventions or training (Avey et al.). The

overarching concept is grounded in resource theories which assert that psychological variables, such as resilience and optimism, create a higher order composite that presents a viable means of potentially predicting and managing behaviors such as absenteeism (Avey et al.).

Police call center interviews and surveys in the U.K. have been used to examine the intensity of job stressors created by adverse working conditions, such as chronic understaffing (Bain, Taylor, & Dutton, 2005). The findings provided a more dynamic view into the psychological attributes of public safety call centers in the context of variables such as workload, stress, and the pressures of the job created by an acute awareness of the responsibility to the public. Additional factors uncovered in the study provide insight into the attributes of the police call center, which is the most similar call center form to U.S. 911 public safety call centers. Job stress analysis uncovered relationships linking the physical and mental demands and intense personal commitments that contributed to physical and emotional exhaustion, general poor health conditions, and sickness absence among call police center workers (Bain et al., 2005). The distinctive experiences of police call center work contribute measurably to high levels of poor health and absenteeism. The research outcomes point strongly to the contributions that chronic understaffing and the lack of suitable, immediate remedies contribute to the debilitations created by demands of the job, regardless of the satisfaction found from helping people in distress (Bain et al., 2005).

Absenteeism studies done in nursing, where there is a chronic shortage of workers to begin with, have supported the theory that working conditions which include

psychological and physical stressors, contribute to long term sickness absence and job turnover (Josephson, Lindberg, Voss, Alfredsson, & Vingard, 2008). A survey of 2293 Swedish nurses examined the factors relating to early withdrawal from the nursing profession. Josephson et al. (2008) sought to study the factors related to physical, mental, and emotional exertion, which included organizational changes and social inclusion in the workplace. The narrow focus in a single field creates limitations in terms of generalizability, but contributes to the understanding of potential distinctions and differentiation among various types of call center working environments (Josephson et al.).

Considering single work factors or all related variables, support was found suggesting that the deterioration of psychological working conditions such as job control and social support and physical stressors leading to impairment, contribute to increased long term sickness absence (Josephson et al.). While turnover intention and actual follow through nearly matched long term absenteeism driven by the factors cited, nurses tended to simply move to another institution as opposed to leaving the profession (Josephson et al.). This phenomenon in nursing may indicate a circumstance of opportunity such as the shortage of nurses and the ready availability of other employment.

In contrast, studies of public service motivation (PSM) theory among government workers indicate that altruistic intentions can drive individuals to serve the public and that these types of workers generally demonstrate high levels of intrinsic motivation and lower levels of extrinsic need, such as monetary gain (Bright, 2008). PSM is a viable consideration as another independent, intrinsic variable in the overall discussion of 911

call centers and the issues of absenteeism and turnover. The application of PSM theory is not readily apparent in the call center literature. However, PSM suggests other sets of factors and variables that could be related to individual motivation in a public safety call center environment.

PSM measures include (a) self-sacrifice, (b) compassion, (c) public interest, and (d) public policy making (Bright, 2008). With those measures in mind, research did not demonstrate a significant relationship between PSM and absenteeism and turnover. Study findings suggested stronger correlations around the theories supporting person organization (P-O) fit and job satisfaction when measuring absenteeism and turnover intent. These measures were stronger indicators of positive attitudes and behaviors affecting intentional absenteeism and turnover intention (Bright, 2008). In the context of call centers, working conditions that provided stronger influences on absenteeism and turnover intention among public employees included the intrinsic, non-monetary characteristics of the work such as strong social relationships and professional development opportunity (Bright, 2008).

Case study of social service employees examining working conditions showed that vacancy rates, including all absences and turnover, nearly doubled that of all other types of industrial, commercial, and public employment (Coffey, Dugill, & Tattersall, 2009). Focusing on stress related variables, the research follows theoretical beliefs around those psychosocial factors of work in the public sector that inflict the greatest organizational and personal damage in the form of deteriorating health leading to absenteeism and turnover intention (Coffey et al., 2009).

Analysis of interviews and focus groups found that workers consistently pointed to the time pressure to do more work in less time from an endless flow of difficult, emotionally challenging, and sometimes dangerous cases as the most significant drivers of psychological stress. Notably, the main drivers behind these working conditions were the staff shortages resulting from absenteeism and turnover (Coffey et al.). The study uncovered additional factors identified with stress in the public sector

- organization culture and management, including lack of individual control, poor communication, and excessive restrictions on behavior
- administrative constraints concerning pay and negative public opinion of the work
- overwhelming and unmanageable work targets, excessive workload, lack of autonomy, excessive bureaucracy, a sense of undervalue and irrelevance (Coffey et al.)

In psychologically and emotionally challenging employment environments requiring constant forms of emotional and psychological detachment, such as correctional work, high rates of absenteeism are positively associated with burnout and key drivers of burnout such as emotional exhaustion (Lambert, Hogan, & Altheimer, 2010). Depersonalization is an expected emotional labor behavior among correctional workers (Lambert et al., 2010). Deliberate and sustained acting behaviors, or emotional regulation, have been found to also create emotional dissonance, an intense psychological conflict that results from outwardly acting one way while feeling and intentionally masking or suppressing something completely different internally (Diestal & Schmidt,

2010; Mastracci, Newman, & Guy, 2006). This is a form of emotional control or suppression behavior which is found in call center work and similar call center employee responses such as absenteeism (Wegge, Van Dick, Fisher, Wecking, & Moltzen, 2006).

In a correctional setting, these high emotion, detachment working conditions are associated with individual decisions to take mental health breaks from work in the form of unplanned, voluntary absences. As drivers of high absenteeism rates in the corrections profession, researchers also found that other negative consequences included (a) personal resentment and hardship, (b) decreased morale, and (c) loss of important social network connectivity (Lambert et al.). One of the consistent limitations and cautions in our understanding and use of these research findings, however, is the accuracy of the data. Researchers note that voluntary absenteeism and its factors rely to a large extent on the integrity of self-reporting (Lambert et al.).

Turnover

Turnover is a costly and disruptive proposition for any type of organization. Examinations of the broader turnover literature suggest that the total cost is generally estimated to be between 1.5 and 2.5 times the annual salary of the incumbent job holder (Wright & Bonnet, 2007). Turnover cost estimate models specific to call centers lean to the higher side of the general market estimate, taking into consideration the true costs which include both tangible and intangible costs (Hilmer, Hilmer, & McRoberts, 2004; Holman, Batt, & Holtgrewe, 2007).

Research of Bureau of Labor Statistics data showed that annual turnover rates in the U.S. ranged between 40% and 50% during the decade of the 2000s (Hausknecht &

Trevor, 2011). During the same period, voluntary turnover rates, reflecting those who quit, varied from 17% to 28% while involuntary turnover, including terminations and layoffs, ranged from 16% to 19% (Hausknecht & Trevor, 2011). With an additional 3% to 4% of turnover being attributed to other types of discharges such as death, retirement, and disability, there emerges a recent decade-long range of aggregate or collective turnover in the U.S. for all industries of 36% and 51% (Hausknecht & Trevor, 2011). By comparison, in emerging, low cost, and high volume call center markets, such as India, turnover rates can range anywhere from 20% to 70% annually (Budhwar, Varma, Malhotra, & Mukherjee, 2009).

Call center turnover is found to be lowest in more technical, high commitment formats such as high end private financial services versus more routinized, scripted, and high volume operations where the call receiver is inundated with an endless stream of calls yet has a low complexity, low control job function (Bain, Taylor, & Dutton, 2005; Batt, Doellgast, & Kwon, 2004; Holman, Batt, & Holtgrewe, 2007; Zapf, Isic, Bechtold, & Blau, 2003). In an Australian study of 20 different call centers ranging from financial services to public utilities, Russell (2009) found that the routine and boring nature of the work was the primary reason for planning to quit (32.5%) followed by the lack of opportunity to advance in the organization (13.7%). Other studies indicate that turnover is the lowest in public, non-profit call centers because of the more intrinsically rewarding and fulfilling nature of the work (Bain, Taylor, & Dutton, 2005; Russell, 2009).

Considering the estimated cost ranges of 1.5 to 2.5 times annual salary provides context for the significant body of writing specifically addressing the topic of turnover in

the literature, with half of the research emerging in the past decade (Hausknecht & Trevor, 2011). Total cost alone has obvious economic implications for the real impact of turnover. Some researchers however, have suggested that turnover can be too low, causing employee stagnation that can be measured in static or otherwise declining overall organizational performance (Whitt, 2006).

Beyond direct cost measures, social and operational costs of turnover provide linkages for theoretical relationships related to (a) the loss of organization-special human and social capital, (b) disruption of operational and collective organizational function, (c) effects on remaining members, saddled with everything from additional work to fill gaps to the socialization of new recruits, and (d) increasing recruitment, training, and customer costs, regardless of the customer relation or function (Hausknecht & Trevor, 2011). These outcomes or conditions as turnover generalizations are also subject to the complexities of levels of analysis. Hausknecht and Trevor (2011) noted specifically that the measurement context of the individual does not automatically apply to the business unit level or other aggregate levels of the organization.

In terms of complexity, turnover is also considered a multi-dimensional and multi-disciplinary phenomenon. The framework for multi-dimensionality consists of

- employer
- employee
- social affiliates

The framework for the multi-disciplinary construct consists of

- sociology

- psychology
- economics (Udechukwa & Mutjaba, 2007)

Retention versus turnover. Is the issue staying or leaving? Some theoretical approaches suggest that turnover should be viewed as the opportunity to understand the primary and driving reasons that employees choose to stay with an organization, with a critical focus on the those factors that give the most credence to retention (Harman, Lee, Mitchell, Felps, & Owens, 2010; Pomaki, DeLongis, Frey, Short, & Woehrle, 2010; Taylor, Gardner, & McCombs, 2005; Udechukwa & Mutjaba, 2007; Whitt, 2010). Harman et al. (2010) theorized that retention is a complex structure of positive job attitudes that create job embeddedness as a state of employee attachment affected by many internal and external variables. They further argued that outside of work embeddedness, as a social construct of ties and relationships within one's community**,** was much more reliable at predicting absences and turnover above commitment and job satisfaction, than on the job embeddedness (Harman et al.).

Modeling. Mathematical models have been developed and studied with the goal of predicting the probability of intention to quit, seeking balancing factors that consider both the intention to stay and the intention to leave (Udechukwa & Mutjaba, 2007; Whitt, 2006). Whitt (2006) theorized that organizational performance was a variable directly impacted by relative employee job satisfaction. Specifically applied to call centers, the model built off of an organization's historical performance variability, assuming that low satisfaction, driving higher turnover, created measurable organizational economic issues

in call centers related to the costs associated with replacing employees due to turnover (Whitt, 2006).

Retention and intent to stay, as a dependent variable, become operationalized in the model as a function of job satisfaction, an independent variable that can be controlled by management influence on both intrinsic and extrinsic factors such as autonomy, stress management, and pay and benefits (Whitt, 2006). Suggesting that job satisfaction was difficult to measure, management actions solely intended to increase job satisfaction as the critical dependent turnover variable related to performance provide a process concept that suggests (a) satisfaction increases retention, (b) retention increases the overall employee job experience in terms to time on the job, and (c) the increased experience increases performance (Whitt, 2006). Applying these relationships as a mathematical formula, the objective is to provide quantifiable evidence of a direct correlation between retention and organizational performance (Whitt, 2006).

Udechukwa and Mutjaba (2007) contested that the many variables and factors associated with traditional voluntary turnover models overlooked the simplicity of the problem that could be summed through three broad entities (a) social affiliates, (b) employees, and (c) employers. Determining the probability that an employee would either stay or leave could be accomplished through linkages created between the internal and external factors associated with turnover. Intention of quitting models or turnover intent focus on those individuals likely to leave without identifying and quantifying individuals who are likely to stay (Udechukwa & Mutjaba, 2007). In contrast to the greater discussion, the modeling theory argued that the probability that an employee

would stay or leave is altogether different from the individual's intention of leaving. The rationale is that this approach provides a sensible strategic objective for organizations to identify those employees likely to leave before the actual intent develops (Udechukwa & Mutjaba, 2007).

Generally, the act of leaving an organization is caused by many within and without-organization forces and actors moving in different strengths over varying periods of time (Udechukwa & Mutjaba, 2007). It is more logical then that this mathematical model would best be applied to the application and screening process for new hires versus the likely lengthy process of determining who might think of leaving after they are hired. To that end, it is more fair to argue the merits of determining the risk or likelihood of an individual's ultimate potential to leave the organization, if such a prediction is possible (Udechukwa & Mutjaba, 2007).

Expectancy and Equity Theories. Nyberg (2010) surveyed over 12,000 insurance employees to study management factors that may drive turnover intention related to job performance and extrinsic factors contributing to job satisfaction. Expectancy theory applied to turnover suggests that high performing employees psychologically aggregate and thus equate their outputs directly to rewards or outcomes, creating a negative relationship between performance and turnover intention. The theoretical premise implies therefore that as long as the rewards meet expectations based on individual perceptions about their own outputs, then turnover intention is minimized (Nyberg, 2010; Vroom, 1964). Additional linkages to the theory also equate job satisfaction as a strong indicator of turnover intention where the sum of outcomes related

to the effort and input provided by individuals is considered (Vroom, 1964). Expectancy theory postulates that there are independent variables associated with cumulative, positive outcomes in the form of job satisfaction. The individualized summation of outcomes related negatively to turnover intention as a dependent variable in the expectancy theory model. These variables included:

- pay
- supervisor consideration
- likelihood for advancement
- social support or coworker interaction
- job diversity
- job control
- impact on or participation in decision making (Vroom, 1964).

Conversely, and relevant to call center turnover research, the lack of social support and job repetitiveness have been found to positively affect turnover intention in expectancy theory research (Vroom, 1964).

Extending the premise, equity theory provided an additive dimension to the research model, building on the expectancy theory assumptions and adding the relationship created by comparing individual rewards and outcomes to referent peers (Nyberg, 2010). Equity theory also weighs the cumulative effects of both intrinsic and extrinsic variables on individual perceptions of outcomes that individuals weigh in relation to others (Adams, 1963). As a psychological state, the relevant strength of the perception of equity or inequity is the driving force behind individual behavior, which at

the extreme end includes what Adams (1964) qualified as *leaving the field*. This psychological state or psychological distortion may or may not be grounded in the reality of specific conditions but is noted to drive behaviors that include absenteeism and the stages along the way that may ultimately lead to quitting (Adams, 1963).

The combined theories formulated a collective hypothesis at the individual level of analysis and suggested that if work input is rewarded as expected, and outcomes and rewards are perceived as equitable among referent coworkers, then turnover intention is consistently negatively affected as well as, to a less consistent degree, absenteeism (Adams, 1963; Nyberg 2010; Vroom, 1964).

Several other issues related to the original theories are worth mentioning in the context of call centers. Vroom (1964) noted in particular that additional forces, such as economic conditions, may be stronger factors in decisions to leave the organization. This assumption is worth remembering in the context of the proposed study. It has been suggested already that economic conditions and timing may have been factors in the findings of the existing 911 call center study (Taylor, Gardner, & McCombs, 2005). Consistent with both equity and expectancy theories, respondents placed issues such as higher pay at other call center locations as one of the key reasons for peer turnover (Taylor et al., 2005).

In relation to absenteeism, Vroom (1964) found through an historical analysis that the measures of absence were critical in establishing the strength of the relationship between absenteeism and job satisfaction. In this context, absence frequency, duration, and unexcused absence were much stronger indicators of the relationship to job

satisfaction. This is consistent conceptually with the underlying study being extended to 911 call centers in the proposed research (Bakker, Demerouti, & Schaufeli, (2003). Considering job satisfaction as a traditional measure for both absenteeism and turnover intention, integrating the two theories thus creates a pathway from expectation as a psychological state to behaviors as a response that can include a range from absenteeism to turnover (Adams, 1963; Vroom, 1964).

The high performer versus low performer contrast examined by Nyberg (2010) supported the assertions of equity and expectancy theory related to turnover intention and absenteeism by correlating the relationships between very specific economic variables, such as relative unemployment, pay growth opportunity, monetary rewards, and job or skill specific opportunity with those behaviors (Adams, 1963; Vroom, 1964). When all of these conditions are met in combinations to the satisfaction of the high performer, there is a strong negative relationship to voluntary turnover intent and a weaker relationship to absenteeism (Adams, 1963; Nyberg, 2010; Vroom, 1964). These factors and relationships place job satisfaction in the role of dependent variable subject to extrinsic motivators that may also be viewed in Nyberg's (2010) study as working conditions.

Reviewed literature on call centers present varied findings and perspectives on the importance of extrinsic motivational variables such as pay and advancement opportunities on turnover (Batt, Doellgast, & Kwon, 2004; Holman, Batt, & Holtgrewe, 2007; Taylor, Gardner, & McCombs, 2005). Among call center workers, Russell's (2009) study found that 20% of turnover intent was directly attributable to dissatisfaction with wages and unfair treatment by management and 13.7% attributed to the lack of

advancement opportunity. However, it is arguable that the established theory of quantity versus quality conflict provides more consistent and compelling literature around the role of job demands, such as job stress and satisfaction, and job resources, such as supervisory support, as the key factors in call center turnover (Bain ,Taylor, & Dutton, 2005; Batt et al. 2004; Holman et al. 2007; Siong, Mellor, & Moore, 2006; Taylor et al. 2005; Townsend, 2007; Zapf, Isic, Bechtold, & Blau, 2003).

Traditional theory. Traditional theory and research around turnover postulate that the primary drivers of employees voluntarily leaving a job are anchored in factors related to the broader construct of job satisfaction (Harman, Lee, Mitchell, Felps, & Owens, 2007; Wright & Bonnet, 2007). When the relative balance between employee intrinsic and extrinsic needs do not meet their expectations through their employment situation, it is predicted that job satisfaction declines and individuals begin to think about leaving (Harman et al., 2007).

The process of making decisions to leave or stay are influenced by a wider individual view and consideration of factors including the general economic conditions, the real cost associated with changing positions, the rewards associated with existing employment and working conditions, and the attractiveness of any available alternatives (Harman et al., 2007). Other views held in the turnover literature posit that turnover intention is grounded in four cognitive elements that each can be measured individually as determinant factors:

- thinking of quitting
- planning to stay or leave

- searching for alternative employment
- a desire to leave the current job (Lambert & Hogan, 2009)

While no psychological or behavioral process map following the individual's linear path to intent to leave has been uncovered in this literature search, individual motivational constructs have a place in the discussion and analysis related to job satisfaction and turnover. Intrinsic and extrinsic motivational declines in the form of ultimate low motivation have been positively associated with depression, emotional and psychological exhaustion, job burnout, and voluntary turnover intention (Tremblay, Blanchard, Taylor, Pelletier, & Villeneuve, 2009). Conversely, supportive work climates where supervisory and social support exist, drive motivation and job satisfaction when intrinsic factors meet fundamental psychological needs such as personal autonomy and control (Tremblay et al. 2009).

Theories of turnover ultimately support a more direct and powerful relationship to job satisfaction as a central, encompassing, and more sweeping dependent variable that is the critical predictor of turnover intent (Harmon, Lee, Mitchell, Felps, & Owens, 2007; Wright & Bonnet, 2007). Both job satisfaction and commitment are related as antecedents of voluntary turnover in a broader set of independent variables measured as employee perceptions and attitudes (Hausknecht & Trevor, 2011). From the employee perspective, additional working conditions psychologically evaluated as antecedents in the turnover framework include:

- management leadership and quality
- organizational climate and culture

- justice and fairness attitudes (Hausknecht & Trevor, 2011).

These intrinsic motivators, led by job satisfaction, also surface as key factors in a call center turnover study that replicated retail turnover models (Siong, Mellor, Moore, & Firth, 2006) Both intrinsic and extrinsic job satisfaction factors were measured, along with commitment, supervisory support, and job stress. Using interviews across a variety of public and private industry sector call centers, the descriptive analysis showed no direct links between job demands such as job stressors and intention to quit when compared to findings in traditional retail environments (Siong et al. 2006). Conversely, supervisory support, job satisfaction, and job commitment demonstrated a powerful negative relationship to intention to quit. The findings suggested that the indirect but cumulative relationships of job demands such as workload and stressors were affected negatively by focused attention on intrinsic variables such supervisory and social support (Siong et al.).

Managerial relationships and turnover. As noted by data obtained in Siong et al., the supervisory relationship matters as a mechanism to affect turnover intention. Social structures in call centers can be complex and create a variety of layers that ultimately contribute to the working culture (Russell, 2009).

Mardanov, Heischmidt, and Henson (2008) examined leader member exchange theory (LMX) in the job satisfaction and turnover equation, asserting that 77% of employees in the U.S. reported that they were unhappy with their current jobs. A study of bank employees tested specific hypotheses around LMX scale measures and their relationships to voluntary and involuntary turnover. LMX theory suggests that strong

satisfaction with supervisors, operationalized by positive LMX, is positively related to employee job satisfaction and negatively related to turnover and turnover intention (Mardanov et al., 2008). In the context of turnover drivers, institutionalized and consistent key factors are measurable in this theoretical model for sustaining low turnover rates overall when an organization practices:

- extrinsic work motivation
- high intrinsic motivation
- good quality LMX
- psychological support and contact
- commitment
- behavioral commitment
- moral and ethical values around retention (Mardanov et al.)

Personnel. Townsend (2007) focused person and job fit theory in a public utility call center case study to argue that turnover was somewhat predestined when the employee is not matched to the stress, emotion, and cultural environment of the work. Siong et al. (2006) suggested that intention to quit may be as much attributable to personal factors as much as any included in turnover models. Different job types and their respective organizational cultures appear to contribute significantly to the psychological environments related to the measure of job satisfaction as a predictor of turnover (Lambert & Hogan, 2009; Pomaki, DeLongis, Frey, Short, & Woehrle, 2010; Wright & Bonnet, 2007). Info service labor processes such as are found in call centers,

drive a unique cultural environment where complex cultural relationships exist within and without the operation (Russell, 2009).

Research using direct observation and management interview methodologies revealed that individual failure to adapt to a specific culture, such as a public call center for a government agency with high emotional labor requirements, led to sustained annual turnover of over 30% in spite of efforts to improve recruitment, training, and operational systems and work processes (Townsend, 2007). Townsend (2007) found that standardizing and institutionalizing work systems and intensifying technical training did not mitigate the personal, intrinsic needs of individuals that existed when they came to the job. The opposite effect actually occurred where employees experienced less personal control when more work controls and operating standards were imposed, contributing to frustration, stricter monitoring, and disengagement, all recognized contributing factors in turnover (Townsend, 2007).

In another study, tele-nurses, demonstrating the same intrinsic drive, were able to operationalize and mobilize their professional identity as a self-determinative mechanism to resist managerial controls (Smith, Valsecchi, Mueller, and Gabe, 2008). Social values applied in a manner that creates both occupational and professional identity have been found to inspire self-designed job autonomy as a means to mitigate traditional tensions known to drive call center stress and ultimately turnover (Mueller, Valsecchi, Smith, Gabe, & Elston, 2008). Self-designed control devices that deliver intrinsically motivating results may be enabling mechanisms to both *do things right* and *do the right thing* in

certain public call center environments where lower overall turnover rates have been found (Manz, 1986; Mueller, et al. 2008; Smith et al. 2008; van den Broek, 2008).

Psychosocial factors. Research among vulnerable occupational groups, such as teachers, social workers, physicians, nurses, and police officers, have demonstrated that intense psychological stressors can be important indicators and precursors of turnover intent when these groups lack resources such as social support (Pomaki, DeLongis, Frey, Short, & Woehrle, 2010). Occupational stress and turnover models used in a longitudinal study of new teachers provided evidence of the importance of peer support, including direct interventions such as mentoring, in stabilizing the psychosocial work environment of newer vocational professionals in particular (Pomaki, et al. 2010). The lack of support combined with the pressures of workload as a job demand had a direct and influencing effect on intention to quit among teachers, which was also found to be a reliable predictor of turnover (Pomaki, et al.).

Job satisfaction as an independent psychological variable related to turnover and turnover intent and the factors that contribute to job satisfaction have both compounding and confounding effects. While job satisfaction appears to be consistently viewed as a critical internal resource in managing turnover intention, other research findings vary on the role of demands or specific work environment variables or working conditions as critical factors of intent to turnover, including individual characteristics. Lambert and Hogan, (2008) constructed a path model theory that built a statistical argument around personal characteristics including age, race, tenure, position, and education as being cumulative predictors of direct and indirect effects on correctional worker turnover intent.

This method did not support specific job demand or work environment variable relationships such as job stressors with turnover intention, but did present statistically significant, inverse relationships between job satisfaction, commitment, and voluntary turnover intention (Lambert & Hogan, 2008).

As noted, Pomaki et al. (2010) sharply contrasted individual factors by exploring the measurable influence of the psychosocial work environment on turnover intention. In the same discussion of job satisfaction, more external factors such as the socialization of organizational fairness or justice and the social context created by coworkers also contribute to a buffering process that has an inverse and direct effect on turnover intention (Lambert & Hogan, 2008; Pomaki et al., 2010).

Wright and Bonnet (2007) criticized their own earlier studies for failing to consider the specific importance of psychological well-being (PWB) in the individual continuum of conditions that contribute to job satisfaction and ultimately personal states that can lead to turnover thoughts, intentions, and actions. A two year longitudinal study of managers in a large organization provided support to the argument that PWB and job satisfaction are critical variables and moderate predictors of turnover (Wright & Bonnet, 2007). The hypotheses integrated conservation of resources theory (COR) which suggests that individuals tend to develop, protect, and preserve primary resources in the form of psychological well-being (PWB), and secondary resources, in the form of job satisfaction, as emotional attachments in their personal self-regulation tool box (Wright & Bonnet, 2007).

Manz (1983, 1986) theorized that the self-leadership construct embodied the individual effort to extend self-influence and regulation into intrinsic work motivation behaviors and cognitions that feed and direct personal reward practices and job satisfaction. Personality factors such as self-monitoring, self-direction, or self-management, which are applicable constructs of self-leadership, could be useful in accounting for some of the variability in the relationship between intention to quit and actual turnover (Manz, 1983, 1986; Siong et al., 2006). This resource management concept may provide a positive, affective contribution that can be internalized in states such as job satisfaction. This occurs through a process described as reciprocal determinism, where desirable behavior is driven by both intrinsic and extrinsic forces managed and regulated by the individual (Manz, 1986). Early field studies that investigated the interaction between intrinsically-driven, self-determinative behaviors and working conditions such as autonomy and supervisory structures related to job satisfaction found that individuals with perceived high self-leadership showed higher job satisfaction (Roberts & Foti, 1998).

Summary and challenges. The dimensionality and complexity of the variables and factors associated with the intention to turnover and turnover are significant, including the application to call centers (Budhwar, Varma, Malhotra, & Mukherjee, 2009; Jack, Bedics, & McCary, 2006; Sawyerr, Srivinas, & Wang, 2009: Siong, Mellor, Moore, & Firth, 2006; Townsend, 2007). As such, the inherent weakness in turnover study remains the dilemma of gathering valid data around the actual reasons for quitting versus the factors that lead to intention to quit (Lambert & Hogan, 2009). Acknowledging

the challenges to adequately control for the many variables involved in turnover and turnover intention, other theoretical approaches such as the unfolding model at least help to map a psychological process that contributes to the understanding of how individuals work through and up to the intent to leave a job (Harman, Lee, Mitchell, Felps, & Owens, 2007). Studies of nurses provided insight into the path that emerges to a turnover decision, helping to rationalize previous discussions of the many psychological, psychosocial, and workload related factors that contribute to the discussion of the turnover process (Harman, et al. 2007).

Siong et al. (2006) noted that their turnover study methods were consistent with the practice of substituting intention to quit as the "proxy" for turnover. The practical research limitation is in gaining credible data in the form of understanding the conditions and factors leading up to the decision to leave from individuals who have already made the commitment to leave or who have already left the organization (Siong et al). Studying intention to quit versus the actual behavior of quitting had been substantively validated while similarly being criticized for lacking the power to adequately explain the large amount of variance between the intention to quit and quitting behavior (Siong et al., 2006). It is argued, however, that intention to quit or turnover intention remains the strongest predictor of actually leaving the job (Pomaki, DeLongis, Frey, Short, & Woehrle, 2010).

Models and Methods

Various research methods have been applied to different theoretical and operational models to examine absenteeism and turnover intention as dependent

variables. A review and discussion of how different models have been operationalized in the research literature provided a better understanding of the relationships that may affect or influence absenteeism and turnover intention as behavioral outcomes. Different models and applications of methods to look at the variables most commonly associated with absenteeism and turnover in a variety of work environments and working conditions provides a relative setting for the proposed study. These considerations are evolved in the following discussion within the context of survey research as a validated method to measure self-reported attitudes and cognitions, as well as psychological, social, and physical states.

It is arguable that performing high risk jobs where people are potentially at imminent risk from any number of threats based on the decisions made would be among the highest stress working conditions. The job of a firefighter, emergency room doctor, police officer, or even a 911 call center call receiver could fit that description. The demand-control-support (DCS) model, as a job stress measure, is an application that has been used to examine the effects of specific working conditions in the form of job demands on outcomes such as burnout, ill health, and the outcome of absenteeism in high-risk professions (Nobler, Rodwell, & Allisey, 2008). Precursor applications of the demand-control (DC) model alone have focused survey research on the influence of psychological job demands, such as time pressure. These factors have been associated with job strain where variables such as job control are more closely aligned with job satisfaction and the presence or absence of cynicism (van Veldhoven, de Jonge, Broersen, Kompier, & Meijman, 2002).

Survey research around the DCS model further posits that job demands are influenced and ultimately buffered by the variables of social support and individual control. As supported by the evolution of the DC model, the positive outcomes of social support and individual control contribute to psychological well-being and organizational commitment, both known as having a measurable effect on both absenteeism and turnover intention (Nobler et al., 2008).

In considering the various scales that can be applied to surveys that measure attitudes, Krebs and Hoffmeyer-Zlotnik (2010) noted the significance of fully identifying the range of choices along a scale to ensure that respondents have the full complement of cognitive demands intended in the item being measured. On the other end of that equation, values ranked from high to low or low to high, such as along the continuum from *always* to *never*, generally have a 50% chance of equal response in a closed-question survey (Krebs & Hoffmeyer-Zlotnik, 2010). Another important consideration is actual participant response styles. When answering Likert items in any kind of content framework, survey participants have been shown to vary in their tendency to use different response categories

- positive response or acquiescence response style (ARS)
- negative response categories or disacquiescence response style (DRS)
- midpoint response category or midpoint response style (MRS)
- extreme response category or extreme response style (ERS) (Weijters, Geuens, & Schillewaert, 2010).

Response styles can bias statistical estimates of means, variances, and correlations in cross-sectional survey data leading to potential problems with results and conclusions. However, research findings suggest that response styles are generally stable and constant when a single questionnaire is being administered (Weijters et al., 2010).

Burnout

Lambert, Hogan, and Altheimer (2010) used the burnout model to examine the effects of psychosocial stressors on correctional staff. The process path of their model application suggested that job stress, as a psychological, physical, and emotional state, was the precursor of burnout and could be a viable predictor of voluntary and involuntary absenteeism and ultimately, turnover intention (Lambert et al., 2010). Viewing turnover as the end result of a cognitive process of formulating the intent to turnover, their model also presented a turnover index that is based on

- thinking of quitting
- planning on leaving a job
- the desire to leave the job (Lambert et al., 2010)

The burnout model applied to high stress and high risk jobs such as prison work, with underlying measures of multi-level psychological, emotional, and physical exhaustion, extends the DCS model and adds the dimension of intentional detachment and depersonalization as a stress factor related to these types of jobs (Lambert et al., 2010). Longitudinal self-report survey studies in the nursing profession have also concluded that working condition models measuring adverse physical, psychological, and emotional well-being have demonstrated a direct relationship with prolonged absence and

evolving turnover intention among nurses (Josephson, Lindberg, Voss, Alfredsson, & Vingard, 2008). A risk in surveying highly charged workers in a contextual design such as a prison, emergency room nursing, or a 911 emergency call center is one of response bias problems such as social desirability and acquiescence response (Singleton & Straits, 2010; Weijters, Geuens, & Schillewaert, 2010). Mechanisms to address the risks include ensuring privacy and anonymity for participants and ensuring that validated and reliable instruments and items are used where it is possible (Singleton & Straits, 2010).

The underlying modeling theme is one of the significance of self-regulation and continuous behavior management in positive and negative circumstances as an individual driver of psychological and emotional stress. The challenge is to be able to capture accurate responses from a representative sample of respondents to questions in a self-report environment. When measuring for relationships through survey methods, one of the risks in surveying for attitudes is from the effects of non-compliant survey respondents.

Compared to those who voluntarily comply with a survey request, research has shown that non-compliant individuals are more likely to (a) demonstrate intentions to quit, (b) demonstrate less organizational commitment, and (c) show less satisfaction toward their job and their immediate supervisors (Rogelberg, Luong, Sederburg, & Cristol, 2000). The implications for those characteristics in the proposed research has a certain chilling effect on the potential completeness and reliability of a survey if some number of the target respondents have (a) already withdrawn, and (b) do not participate and actually represent a portion of the sample and potential responses actually associated

with the subject matter of the study. The potential errors cited from significant nonparticipants include

- low response rates and less data
- limitations on the power and choices for statistical analysis
- diminished credibility in the findings
- biased sampling of organizational members (Rogelberg et al., 2000).

It is a challenge in the context of studying absenteeism and turnover intention that is worth noting, especially given the 911 call center environment.

Psychological Models

Diestal and Schmidt (2010) argued that the combination of emotional dissonance (ED) and self-control demands (SCDs) models were effective mechanisms for measuring the individual control or regulation of limited psychological resources that could be directly linked to burnout, anxiety, and absence. Call center jobs are acknowledged as emotional labor where emotional regulation and self-control in the form of management or suppression of emotions that may be contrary to personal feelings in a given moment on the phone is expected (Russell, 2008, 2009). Through survey research, this energy depleting process of sustaining self-control in an environment of meeting emotional demands and performing complex tasks under pressure has supported the ED and SCDs model in having demonstrated influences on personal well-being, burnout, anxiety, and absence behavior (Diestal & Schmidt, 2010).

Psychological capital (PsyCap) model studies have focused the research on a composite measure for individual psychological capacities (Avey, Patera, & West, 2006).

Psychological stress measures captured by the Health and Work Performance Questionnaire (HPQ) sought to tie in broader mental states and mental health generally in the form of psychological distress into the equation of predicting absenteeism in nurses and health care workers (Hilton, Sheridan, Cleary, & Whiteford, 2009). As a behavioral measure, the HPQ in particular was designed to evaluate psychological distress as a composite factor and underlying driver of sickness absence, both voluntary and involuntary (Hilton et al., 2009).

Using survey methods with engineering managers, the PsyCap composite was tested for its relationship to both voluntary and involuntary absenteeism as well. As a multi-dimensional tool looking at both voluntary and involuntary absence behaviors, the aggregate PsyCap measure examined affective states such as resilience, optimism, hope, and self-efficacy, as a means to determine the likelihood of supporting positive organizational behavior (POB) as an outcome model (Avey et al., 2006). Suggested as a latent state, Avey et al.'s research argued that the model demonstrates that PsyCap is a more reliable predictor of both voluntary and involuntary absence than the traditionally held views around organizational commitment and job satisfaction.

The scales used in these examples generally were used for closed-end questions on a 5-point Likert scale. The issue of sufficient depth and breadth in categories or response options provided through survey methods is critical (Krebs & Hoffmeyer-Zlotnik, 2010). Too few options for respondents may not effectively provide for a clear delineation of different respondent judgments around the question being asked. Too many options make it almost impossible for a survey subject to distinguish between the options

being presented, especially if the distinction is unclear or intentionally too fine (Krebs & Hoffmeyer-Zlotnik, 2010).

Turnover

The unfolding model argues that individuals can go down differing psychological paths on the way to actually making the decision to leave an organization (Diestal & Schmidt, 2010; Harmann, Lee, Mitchell, Felps, & Owens, 2007). Depending on any number of variables affecting individual psychological states, this process or path may first include both voluntary and involuntary absenteeism, leading to the intention to quit as a proven precursor to actual turnover (Firth, Mellor, Moore, & Loquet, 2004; Josephson, Lindberg, Voss, Alfredsson, & Vingard, 2008).

Lambert and Hogan (2009) examined the path theory through a path model of turnover that hypothesized that turnover intention was the strongest predictor of turnover. Assuming that job satisfaction and job commitment were partial predictors, the model also introduced the variables of personal characteristics to the path equation, noting that age, gender, tenure, education, and race could pay a contributing role in predicting turnover intention in high risk work such as corrections jobs. Through a survey measurement of maximum security corrections employees, the model demonstrated that age in particular had a direct effect on turnover intention with older workers less likely to leave, along with job commitment and job satisfaction measured by the perceived quality of working conditions (Lambert & Hogan, 2009).

In contrast, person-organization (PO) fit models have been tested through surveys of public service employees, suggesting that job satisfaction remains one of the strongest

predictors of retention among employees when they are aligned with a job that they want to be in and have the benefit of working conditions that have consistent intrinsic and extrinsic benefits (Bright, 2008). Turnover models examining survey results among teachers found that newer employees were more at risk to the affects psychosocial pressures and stress leading to absence and turnover. In particular among new teachers, the variable of social support was found to have an inverse and direct effect on turnover intention, regardless of the work setting and working conditions, including high workloads (Pomaki, DeLongis, Frey, Short, & Woehrle, 2010).

Hausknecht and Trevor (2011) extended the organizational fit premise to a model of collective turnover to better understand the impacts of variables at the aggregate levels of unit, individual, and organizational turnover. Their study was undertaken as a meta-analytic review of existing research to develop a collective turnover model. The findings provided further insight into the total effect of turnover not only in loss of social and human capital from voluntary turnover, but also to highlight the critical performance impacts in the form of declining organizational performance from involuntary turnover (Hausknecht & Trevor, 2011). When compared to emerging models such as public service motivation (PSM), Bright (2008) noted that job satisfaction and socially supportive working conditions were stronger predictors of employee attitudes and behaviors related to leaving the organization. Hausknecht and Trevor's (2011) collective turnover model focuses more on the effect of those variables in terms of bad person-organization fit as a causal model that can be measured as organizational performance, productivity, and external or customer-oriented outcomes.

Clausen and Borg (2010) extended the values of the PO model in turnover intention measurement to examine the psychosocial work environment itself. Their survey study of elder care service workers found that positive work related states such as organizational commitment and job satisfaction generated strong behavioral outcomes, including mediating turnover intention. Firth, Mellor, Moore, & Loquet (2004) tested a similar model related to intention to quit from survey responses among retail sales persons where job stressors were measured against psychological factors such as job commitment, job satisfaction, and support. The application of the model demonstrated that intention to quit was influenced by job stressors, which negatively affected job commitment and job satisfaction both (Firth et al., 2004).

Conclusions

The investigation of the academic research environment in this chapter has demonstrated that research models and methods have evolved to address the issues of employee absenteeism and turnover. The research literature supports various applications of different models using survey research methods in particular to capture, measure, and examine variables and factors related to absenteeism and turnover (Diestal & Schmidt, 2010; Firth, Mellor, Moore, & Loquet, 2004; Harmann, Lee, Mitchell, Felps, & Owens, 2007; Hausknecht & Trevor, 2011; Hilton, Sheridan, Cleary, & Whiteford, 2009; Josephson, Lindberg, Voss, Alfredsson, & Vingard, 2008; Nobler, Rodwell, & Allisey, 2008). Earlier discussions in this document have also examined the depth and breadth of qualitative study specific to the call center segment and the *why* questions behind absenteeism and turnover intention. It is clear that a long-standing theme and underlying

research driver related to absenteeism and turnover intention is job satisfaction. But it is a theme that has also been challenged and evolved as a complex, individualized process that can involve physical, psychological, social, and emotional variables (Firth, Mellor, Moore, & Loquet, 2004; Josephson, Lindberg, Voss, Alfredsson, & Vingard, 2008). These previous efforts support the theories and provide a research design and methodological pathway to extend a quantitative examination of those factors behind absenteeism and turnover intention previously examined in a private sector call center setting into the 911 call center environment.

The proposed study applied validated survey instrument items specifically to measure, evaluate, and examine the existing theory around factors known to affect absenteeism and turnover intent. As noted, prior research applying various theories and models has been extremely limited in the public space of the 911 call center work setting. Given the constraints and the apparent soundness of the existing base of knowledge, a survey design and quantitative data analysis was the best choice to test assumptions of existing models, theory, and specific hypotheses designed to examine absenteeism and turnover intention in the 911 call center environment.

A 911 Call Center Study

The Bureau of Justice Assistance provided a grant to fund the only known national study of public safety communications centers in the United States, conducted over the period of 2003 through 2005 (Taylor, Gardner, & McCombs, 2005). The purpose of the study was to understand staffing and retention issues and factors sufficient to meet public expectations when calling for emergency services and what retention

practices might contribute to a sustainable model of adequate staffing. Emergency 911 communications center managers and staff were surveyed to explore and determine which factors were related to job satisfaction and retention.

To achieve a national sample, the survey was offered online through a website where respondents could complete the survey online or download, print, complete, and mail a paper and pencil copy to the researchers. As an emerging mechanism, researchers have noted that in general, internet based surveys generate samples that are relatively diverse in terms of gender, socioeconomic status, geographic region, and age (Gosling, Srivastava, & John, 2004). The most compelling support for this method is the ability to greatly extend the potential sample size compared to traditional methods in a cost efficient and effective manner. Data collection and computerized administration and analysis methods are also significant advantages, along with mechanisms to protect privacy, allow for flexibility in participation, and the general findings that internet based survey data are consistent with results based on traditional methods (Gosling et al., 2004).

The theoretical premise of the 911 call center study looked more closely at operational and extrinsic variables such as:

- size of the organization and operational structures
- employee demographics and general satisfaction
- work design and policies related to issues such as overtime
- compensation and benefits, and HR practices

Specific measures developed from an Employee Satisfaction Index (ESI) that predicted higher retention rates according to this study included:

- performance of the 911 center
- training
- management and supervisor recognition and appreciation
- shift selection
- trainee mentoring processes
- proper screening of new applicants
- appreciation by the media (Taylor et al. 2005)

Finding that nationally there was an average of 17% turnover in 911 call centers, the researchers determined from regression analysis that five key factors predicted retention rates based on the perceptions of the employees:

- full staffing
- average overtime worked
- job complexity
- hourly pay
- satisfaction with working conditions

It was noted however that these priority factors only predicted 14% of the variance among the centers in the survey, suggesting a significant number of other factors related to the decision to stay or leave (Taylor, Gardner, & McCombs, 2005).

Bain, Taylor, and Dutton (2005) observed in their study of police call centers in the United Kingdom that understaffing combined with work intensification associated with constantly dealing with emergency calls added to psychological pressures on call receivers. This particular dimension of the work, combined with operational factors such

as chronic understaffing that could be due to a host of variables including absenteeism and vacancies created by turnover, contribute to a more global theoretical basis for how the quantitative and qualitative conflict contribute to turnover generally in call centers. Bain et al. (2005) and Taylor et al. (2005) collectively observed from emergency call center workers that there was a public service purpose and personal satisfaction inherent in the work.

As has been theorized in nursing studies, socially and intrinsically motivated workers who are constantly conflicted and pressured by adverse working conditions such as increasing performance objectives and fewer resources in tightly controlled call center environments become less engaged and more likely to begin some form of a process of thinking of leaving (Harman, Lee, Mitchell, Felps, & Owens, 2007; Mueller, Valsecchi, Smith, Gabe, & Elston, 2008; Smith, Valsecchi., Mueller, & Gabe, 2008). Conversely, qualitative data obtained from tele-nursing interviews suggested that given the opportunity to apply more self-directed behavior, that the same intrinsically and socially motivated workers were more engaged, satisfied, and less likely to be moved by factors and working conditions such as increasing job stressors (Mueller et al., 2008; Smith et al., 2008). While Taylor, Gardner, and McCombs (2005) acknowledged the theoretical and practical basis of similar research findings, their study of 911 call centers indicated by contrast that both retention rates and job satisfaction were primarily subject to extrinsic variables such as staffing levels, pay, work design, and training.

Summary

Chapter 2 explored the literature related to absenteeism and turnover in the context of call centers. Through an historical lens, those factors, variables, and relationships contributing to call center absenteeism and turnover were examined. Various theories and models in the literature, such as the JD-RM, generally indicated that working conditions specific to an industry may influence job satisfaction as a broad measure that contributes to both absenteeism and turnover. What is emerging through the basic analysis is a clearer view of both the separation between absenteeism and turnover in the literature, as well as the connections that may exist in terms of potential linkages and pathways that may not yet be fully explored. Chapter 3 addresses various research methods and designs in relation to this quantitative study's research questions and hypotheses. The discussion includes the specific research design, its sample of study and measures, the method and process of analysis and the steps that were taken to protect the privacy rights of the study's respondents.

Chapter 3: Research Method

Introduction

The primary research question being addressed in this study is whether or not job demands and job resources previously associated with call centers in the general call center sector have any statistically significant relationships with absenteeism and turnover intention in 911 emergency call centers. Given the broad research question, the purpose of this chapter is to present the specific research objectives, methods, and rationale behind the study.

Specific hypotheses have been developed as a platform to examine the primary research question and to provide a process map for applying quantitative research methods. The study design was developed to provide a mechanism to examine whether or not relationships exist between job demands and job resources as independent variables and absenteeism and turnover as dependent variables. The chapter presents the quantitative design and survey methodology of the research, and discusses the population and sample of 911 call centers as the focus of the study.

Prior research applying and validating the Job Demands-Resources (JDR) Model and related and integral concepts, such as exhaustion and work engagement, provide a foundation for the study. The chapter 3 discussion includes a description of the validated survey instrument and questions that were used for the current study. The population supporting the research and the method and mechanisms for developing the research sample and gathering and analyzing the data will also be addressed. This chapter

concludes with a discussion of the research limitations of the study and the measures that were taken to obtain permissions and to provide adequate assurances for the protection of individual respondent rights associated with the collection, analysis, and presentation of the data and findings that emerged from this study.

Research Design

In developing a research design, Singleton and Straits (2010) identified three key concerns that the researcher should consider in the context of a topic and the research question or questions: (a) the entities to be studied, (b) what characteristics of the unit being considered for study are of interest, and (c) what the researcher anticipates as possible types or kinds of relationships between the characteristics. Given that guidance, this study relates to these considerations as follows

- The entities are 911 call centers at the individual call receiver level of analysis
- The specific characteristics driving the interest are working conditions, in the form of job demands and job resources, which are identified specifically with the outcomes of absenteeism and turnover intention
- That there may or may not be statistically significant relationships between job demands and absenteeism and turnover intention and job resources and absenteeism and turnover intention

Prepared with a topic and specific interest or questions to ask, Yin (2009) suggested that the determination of a specific qualitative, quantitative, or mixed methods approach could best be answered by understanding the nature of the research inquiry generally in the form of who, what, where, how many, or how much. Corbin and Strauss

(2008) noted that the research questions in a qualitative study are designed to help address undeveloped or poorly understood ideas around a specific topic where more research will contribute to the understanding. Such methods may include case studies, grounded theory, ethnography, phenomenology, and narrative research (Creswell, 2007). In that context, a qualitative study exploring turnover might effectively contribute to the understanding of *how* and *why* questions related to the occurrence of absenteeism and turnover in 911 call centers. An experimental study can also seek to answer the same types of questions (Yin, 2009).

Given the depth of research and applications of theory on the topics of absenteeism and turnover intention in the global call center segment, an experimental design in 911 call centers could have been used to test various established hypotheses. It would also have been useful to the study design and method to begin with an extensive qualitative field study of 911 call centers. A qualitative study was not chosen primarily because of the limitations of resources and the geographic constraints of being able to access 911 call centers for qualitative data collection, such as in person interviews, direct observations, or access to a significant enough sample.

Some arguments suggest that the qualitative construct lends itself to more exploratory inquiry, where the researcher is looking for deeper meaning behind events (Corbin & Strauss, 2008; Creswell, 2007). Yin (2009) maintained that the ultimate driver of the approach and design emerges from three specific conditions that the researcher should consider in determining the most advantageous approach:

- The type of research question posed

- The extent of control that the researcher has over behavioral events
- The degree of focus on contemporary versus historical events

For this research project, the objective was to determine whether or not relationships exist between specific variables, and what those relationships mean in terms of predicting certain outcomes. This is a knowledge-building process that contributes to evolving the research design around the specific theoretical premises that have been explored as well as the grounding research that drives the opportunity to extend or expand an existing body of knowledge through a new set of research questions and hypotheses (Corner, 2002). When the specific goal is to test relationships, as is the purpose of this study, a quantitative study is appropriate to find answers to specific questions and the researcher's hypotheses (Singleton & Straits, 2010; Yin, 2009).

In this case, the outcomes in question are absenteeism and turnover intention. In the context of a research goal looking to determine relationships in the form of asking "to what degree," a quantitative approach and design strategy is warranted to examine and ultimately look for any correlation between factors established in previous call center studies and how they may or may not affect absenteeism and turnover in 911 call centers (Yin, 2009).

Research Approach

The study examined how different types of working conditions, presented as various job demands and job resources specific to call centers, are related to absenteeism and turnover intention among 911 call center employees, and specifically 911 call receivers and dispatchers. The JD-R model is an overarching tool that has been examined

against a variety of work environments, job designs, and occupational settings. It provides measurement tools specific to job demands and job resources via a survey instrument that can be used in the proposed research (Bakker & Demerouti, 2006). The model has been validated as functional and applicable across varied job settings, regardless of the specific or particular working conditions, which are operationalized in the form of the independent variables identified as job demands and job resources (Bakker & Demerouti, 2006; Llorens, Bakker, Schaufeli, & Salanova, 2006).

In this 911 call center study, the design incorporates the specific working conditions indicators that have been correlated with job demands in call centers

- workload
- emotional demands
- changes in tasks
- computer and technology problems

The design additionally considers specific working conditions indicators that have been correlated with job resources in call centers

- colleague (social) support
- supervisory coaching
- performance feedback
- time control (Bakker, Demerouti, & Schaufeli, 2003)

Additional measures included an examination for correlations between job demands and job resources, and absenteeism and turnover intention.

Studies examining the predictive power of the job demands-resources (JD-R) model have indicated that there are positive and negative associations and relationships that emerge through the psychological processes that lead up to absenteeism and turnover. It is theorized that

- a health impairment process emerges from sustained job demands as energy depleting factors--- leading to exhaustion and burnout--- resulting in deteriorating health and increased likelihood for sickness absence
- a motivational process emerges from job resources that drive behaviors such as work engagement, dedication, and commitment—resulting in the mediation of turnover intention and creating a positive, affective motivational state that may also reduce absenteeism (Llorens, Bakker, Schaufeli, & Salanova, 2006).

Work engagement in particular has been found to be the opposite of burnout and associated and correlated with key factors aligned theoretically with job resources such as dedication, absorption, and involvement (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Schaufeli & Bakker, 2003; Seppala, Mauno, Feldt, Hakanen, Kinnunen, Tolvanen, & Schaufeli, 2009). The significance of this concept in the collection and analysis of data in this study is that burnout, primarily driven by job demands, is hypothesized to be positively associated with absenteeism and ultimately turnover intention. Conversely, engagement, as predicted by job resources, acts as a mediator of turnover intention (Llorens, Bakker, Schaufeli, & Salanova, 2006). Further, the job demands of workload and emotional demands and the health impairment variable of exhaustion have been

measured in specific burnout studies where exhaustion is a primary symptom (Bakker, Demerouti, & Schaufeli, 2003).

A survey of 911 call centers was used to collect data for this study. The data was generated via a survey instrument consisting of questions that have been validated in various applications of the JD-R model, including a public sector call center application. The research population is 911 call centers in the United States, and a purposive sample was drawn from a variety of local, regional, and west coast call centers. The survey method was appropriate to gather data given the need to ensure that there was an adequate number of responses for the purposes of descriptive analysis and looking for the possibility of statistically significant relationships (Singleton & Straits, 2010). Anonymity, privacy, and time flexibility are also favorable attributes of the survey method in this particular topic area.

In the design, the objective is to determine whether or not relationships exist and to measure the significance of those relationships and to test hypotheses designed to examine the interactions between the independent and the dependent variables. Given those criteria, this project was designed as a correlational study as opposed to an experimental study because there is no manipulation of the independent variables involved. Manipulation of variables is a function of experimental research (Singleton & Straits, 2010).

Hopkins (2008) suggested that when designing a study to quantify relationships between variables, that the expression of the relationships is best achieved through statistical methods such as correlations, relative frequencies, or differences between

means. A correlation method is also prescribed when the goal is to make inferences about the relationships between two variables specifically, as is indicated in this study (Triola, 2007).

Survey Research

The survey practice is currently one the most widely applied research methodologies in the United States and is most consistently applied in the areas of (a) census taking, (b) commercial polling related to products, politics, and opinions, and (c) scientific application throughout the academic community (Babbie, 1990). It is most widely used in the social sciences in the areas of sociology and political science for explanatory and descriptive application (Singleton & Straits, 2010).

Babbie (2009) noted that survey research has deterministic value, providing a data sourcing mechanism valuable in identifying cause and effect relationships. It is also cautioned that one of the most common sources of errors made when interpreting the results of correlation is to conclude that correlation implies causality (Triola, 2007). Because of its ability to reach and include significant populations, survey research is also valuable in exposing the frequency of certain characteristics of populations or groups, especially where the goal exists to understand a larger population (Singleton & Straits, 2010). Related to explanatory power, survey research helps to focus on the development of generalized concepts or discussion about human behavior (Babbie, 2009). From a descriptive perspective, survey research provides a distribution of a population's characteristics, attitudes, or experiences (Singleton & Straits, 2010).

Characteristics and attributes. As a numerical proposition, survey research is capable of generating significant amounts of both qualitative and quantitative data. The investigative value is that the method then provides a mechanism to be able to, within statistical limits of sampling error, accurately describe a larger population (Singleton & Straits, 2010). By nature of the process and data gathering, survey research naturally seeks to uncover correlations (Babbie, 2009). While the units of analysis in survey research are most often individuals, the method can also include larger units such as companies, schools, or even entire nations. Another feature is that survey research provides empirical verification. This is considered a critical scientific characteristic because of the collection and quantification of data (Babbie, 2009).

Challenges of survey research. The critical scientific challenge of survey research related to social science applicability is generalizability and the required operational methods to achieve it (Babbie, 2009). Disadvantages that apply to survey research relate to explanatory power. Singleton and Straits (2010) noted that beyond association between variables, cause and effect relationships are generally more clearly delineated with experiments than with survey research efforts. Additional shortfalls of the survey method include the fact that (a) survey methods are generally standardized and less flexible and adaptable during the course of a study compared to other methods that can adjust more readily in the early stages, (b) survey methods are susceptible to reactivity bias where respondents are inclined to attempt to provide the right answers, (c) surveys capture respondents' self-reports of behaviors rather than observations of behavior, producing measurement error, and (d) surveys lack depth related to context

because behavior is only briefly captured or observed compared to depth that can be attained in field research (Singleton & Straits, 2010).

Setting and Sample

The target population for the research was 911 call centers located in the United States. The sample frame for administering the survey was constructed from a purposive sample of local, regional, and west coast 911 call centers contacted specifically for the purposes of participating in the proposed study. The study sought to include participation from known call centers and included some sites as a matter of convenience, general access, and willingness to participate in order to achieve data objectives for analysis purposes. Agency or organizational level data, such as statistics related to current numbers of call receivers and dispatchers, was requested for reference purposes to better understand the potential sample and the actual rates of participation.

Previous research efforts have indicated that 911 call centers are notoriously weak in data and extremely protective and hesitant in providing existing information or access to their operations (M. Berryman, personal communication, September 26, 2010; Taylor, Gardner, & McCombs, 2010). Because this study was an individual, independent, and non-sanctioned study from an industry or governmental perspective, it was not likely that a completely random sample of the target population could be achieved in a timely manner. The appropriate target sample was developed through a recruitment process of personal requests, referrals by sheriffs or other 911 call center managers, and direct solicitation of call center managers. As shown in Appendix A, a power analysis indicated

that a minimum sample of 82 completed surveys was required for this study (Faul, Erdfelder, Buchner, & Lang, 2009).

911 communications center environment. It is estimated that over 240 million 911 calls are made annually in the United States (NENA, 2010). In general, the profile of a 911 emergency call center varies widely across the country. The critical distinguishing features are (a) geography served, (b) types and sizes of population centers served, and (c) the variety of services that are dispatched (Taylor, Gardner, & McCombs, 2005).

While independently run contract 911 call centers exist under various units of government such as municipalities, 911 operations are generally affiliated with local law enforcement, fire, or medical response (NENA 2010; Taylor et al., 2005). The 911 call centers participating in this study will be qualified by a common characteristic of serving primarily law enforcement, fire, and emergency medical dispatch.

Including contracting agencies, 911 call centers are generally publicly funded and their operations are supported financially through revenue streams that include

- county 911 revenue
- contracts for services with other communities
- Public Safety Answering Point (PSAP) funds from the state

The PSAP funding is 100% performance based, requiring call receivers to answer 90% of the calls coming in within 10 seconds, 80% of the time (KCSO, 2008). Software tracks this performance in real time. Unit, shift, and individual employee performance reports are generated monthly around these call receiving standards (KCSO, 2008).

Co-located with the Office of Emergency Management (OEM) for the county, the King County Communications Center (Comm Center), as a medium sized 911 call center example, had an authorized strength of 94 full time employees in 2008. This includes: (a) 79 call receivers and dispatchers, (b) eight civilian line supervisors, (c) one civilian operations manager, (d) a captain as the senior manager in charge, and (e) five support personnel (Kirk & Wohrle, 2008). To put direct and indirect absenteeism and turnover cost in perspective as dependent variables, other notable data for the King County Comm Center is useful in framing a sample environment. Historical information from the King County example presents the type of data that helps to operationalize the overarching research problem and questions

- call receivers and dispatchers averaged 7.72 years on the job
- supervisors averaged 9 years on the job
- new call receivers required 920 hours of training valued at $22,742 per employee
- the turnover rate for the period examined was 26%
- 52% of all leave time was due to some form of absenteeism (Kirk & Wohrle, 2008).

In the most recent national 911 call center study, a total of 153 different call centers were surveyed with as few as 4 employees on calls and as many as 322, taking in as few as 2000 calls to over 9 million calls annually. In this study, turnover averaged 17% (Taylor, Gardner, & McCombs, 2005).

Study participants. All participating 911 call center employees who actively receive or dispatch calls or both, were eligible to participate. Call center managers were asked to offer the opportunity to complete the survey to all of their qualified employees. The analysis of the data focused on the responses provided by participating line level call receivers and call dispatchers as the set of cases observed for descriptive purposes. The rationale applied is that supervisors, managers, and clerical support staff are most likely a significantly smaller employee number in 911 call centers as noted in the King County example. It is logical therefore that they would not have the same overall absenteeism and turnover impact as the majority of workers on the front line actually taking calls.

A call receiver is generally the first person to receive the 911 call. A call dispatcher is responsible for directing the call to the appropriate emergency response service. Call receivers and call dispatchers can be one in the same, depending on the size and operational configuration of the 911 call center (NENA, 2010; Kirk & Wohrle, 2008). Employee measures related to the independent variables were derived from those individuals voluntarily completing the survey. Respondents were defined by the following employment characteristics, general demographic information, and control variables

- work location (named organization)
- job position (call receiver, call dispatcher, or functionally both)
- age
- gender
- length of time on the current job

- method of training for the job
- length of time as a call receiver or dispatcher, or both
- hours worked per week
- voluntary overtime hours per week
- mandatory overtime hours per month

Procedures. E-mail correspondence and personal phone calls were made to management of individual 911 call center organizations for introductory purposes. These contacts were made through a process of seeking referrals from Sheriffs, known communications center managers and requests for their referrals, and from cold call solicitations made directly to call center managers. Phone and e-mail exchanges were used to gain feedback from 911 call center managers regarding (a) appropriate methods and mechanisms for making the survey available to target employees, (b) timing, (c) survey questions, and (d) the web site and all related informational materials designed for respondent use.

As a follow up to explain the research purpose, interested call centers were sent a personal e-mail. The detailed explanatory communication was accompanied by critical documents including the survey, consent documents, and all IRB required materials (Appendices B, C, & D). Communications also included an electronic and printable version of a recruitment flyer for qualified employees requesting their participation, including descriptions of the research purpose, need for the study, and measures taken for the protection of participant privacy and anonymity. A dedicated web site was set up for informational purposes and to provide a link to the survey on a secure SurveyMonkey

server. The web site included all disclosures, consent information, and background on the research, including instructions for how to participate and timelines for completion of the questionnaire. . Key e-mail communications to site managers, respondent recruitment flyers, and the main pages of the web site, including the consent pages, conspicuously displayed the IRB approval number 08-15-11-0109571**.** To increase the likelihood of obtaining a sufficient number of completed surveys, the questionnaire was made available to potential respondents exclusively through SurveyMonkey, a secure online survey web site (SurveyMonkey.com, 2011). Before fully rolling out the data collection, a pilot test site in Kitsap County, Washington, was surveyed to gauge the effectiveness of the survey instrument as well as the responsiveness of employees.

One limitation considered related to the respondent sample was that employees on sickness or some other leave of absence at the time the survey was administered may or may not be able to participate. It was unlikely that participating call centers would voluntarily provide a paper or other type of questionnaire to those absent from work, as has been done in similar types of call center studies (Bakker, Demerouti, & Schaufeli, 2003). However, participating call centers were given the option to at least offer the opportunity to participate remotely to any qualified employee.

Research Instrumentation

Data for the study was collected using items from validated survey instruments that included (a) questions from a translation of a Dutch survey instrument developed by Schaufeli (2006), *Move for your Life*, and (b) the *Questionnaire on the Experience and Assessment of Work* developed by van Veldhoven and Meijman (1994). Additional

measures included in these instruments were derived from the leader-member exchange (LMX) scale application questionnaire developed by Scandura and Graen, (1984), which contributes to measures for supervisory coaching. Two items from an instrument developed by Bakker, Demerouti, & Schaufeli, (2003) were included which measure computer and technology problems. Copies of the original language and translated survey instruments are available upon request.

Because translations of original Dutch survey items were involved, certain words such as *vigor* were assumed to not be readily identifiable or properly associated with the intent behind the word itself as common or daily American conversation among respondents. In such instances, a thesaurus was consulted to select words that reflected the same meaning but which would be more readily understood by respondents. For example, the word *vigor* could be logically replaced with *energy*, and was assumed to be more readily understandable (Thesaurus.com, 2011). Prior to administering the pilot study, the authors of the original Dutch surveys were given the opportunity to review the translated survey. The authors granted permission for use of their survey instruments and approved of the translated survey questions used for this study (Appendix E).

The combined survey items included measures of the independent variables and factors identified in call centers related to job demands, job resources, and other factors identified with the dependent variables absenteeism and turnover intention. The specific working condition concepts and factors measured were

- job demands, which are operationalized with the indicators (a) workload, (b) changes in tasks, (c) emotional demands, and (c) computer or technology problems (Bakker, Demerouti, & Schaufeli, 2003)
- job resources, which are operationalized with the indicators (a) social support, (b) supervisory coaching, (c) performance feedback, and (d) time control (Bakker et al., 2003; Sonnentag, Mojza, & Binnewies, 2010)

Additional concept measurements included in the survey instrument were

- the dependent variable absenteeism, operationalized by the indicators of absence duration and long term absence, measured by items from the instrument developed by Schaufeli (2006)
- the dependent variable turnover intention, operationalized as a single indicator, measured by items from the instrument developed by van Veldhoven and Meijman (1994)
- demographic and employment related data was requested at the beginning of the survey and included
    - work location
    - age
    - current position
    - gender
    - time on the job in current position
    - method of training for the job
    - length of time as a call receiver, call dispatcher, or both

- hours worked per week
- voluntary overtime hours per week
- mandatory overtime hours per month

Measures. The central hypotheses being tested were whether or not job demands and job resources had a relationship to self-reported absenteeism and turnover intention. Quantitative data measures were collected and scored against a five point Likert scale. With different sets of questions for different factors being measured, the responses were captured along a range on a scale from either scale A (1) *never* to (5) *always* or scale B, (1) *strongly disagree* to (5) *strongly agree*. The total number of statements and questions for the survey was 51, plus 10 demographic and employment-related questions required for qualifying information, such as job position, gender, and overtime hours worked. The complete survey instrument is available in Appendix D.

Analytic tables were completed and inserted in the study's text as appropriate. Raw research data, such as completed questionnaires, as well as the original survey instruments, are available upon request. Respondents were asked for limited, individual level demographic data, which included age, gender, job position, and length of employment, in addition to several employment related questions. This information was requested on the first data request page of the survey, before any specific survey questions.

Reliability. Reliability refers to the consistency and dependability of the unit being measured. Validity refers to the accuracy of the measurement relative to a definition and the specific theoretical concept involved (Singleton & Straits, 2010). In

this study, the nature of the survey instrument and its measures presented potential reliability problems, especially in the areas of both reactive measurement and random measurement error. Study subjects could inject their prejudices about specific topics as a matter of having the knowledge of participating in a research study. They may also give erroneous responses based on their particular personal circumstances at the time of the survey.

Singleton and Straits (2010) suggested that effective methods of mitigating reliability risks include (a) using pretests of measures on a small sample of respondents, (b) ensuring that survey instructions are clear and understandable, (c) ensuring that survey environments are favorable, such as taking a survey at the beginning of a shift or during an early break instead of at the end of a shift when factors such as fatigue and psychological and emotional exhaustion may be involved, and (d) using multiple items in each category of variables under study to create a composite measure. For this project, a small pilot study was executed to obtain (a) feedback on the instrument and survey set up as well as the survey instructions, and (b) check a small sample of data prior to administering the survey to the entire sample.

Additionally, the validated survey instruments applied to this study were designed for composite scores from multiple items for each independent variable under study. Likert scales in surveys are particularly applicable for gathering information that may seek to quantify attitudes, opinions, emotions, and descriptions of environments such as a working situation. This type of scale is characterized through its ability to support respondent ratings across a range of response options for each item where the items

collectively can be summed or combined (Gliem & Gliem, 2003). The key scale characteristics include

- multiple items that can be summed
- each item in the scale measures a property of something that can vary quantitatively versus qualitatively
- There is no right answer to any item, giving summation a unique property over multiple choice for example
- The measurement items are in some form of statement form that elicits a degree of agreement or disagreement across a series or range of choices (Gliem & Gliem, 2003).

When there are multiple items in a survey instrument that can be added together to measure an individual factor or variable, there is less random error that can occur and therefore the reliability of a survey instrument that measures attitudes is likely to be increased. As such, single item reliabilities are generally very low (Alwin & Krosnick, 1991; Garson, 2011; Gliem & Gliem, 2003). Alwin and Krosnick (1991) further noted that the psychometric application of reliability in survey research relates to consistency of correlations in responses as opposed to the individual changes or differences between responses. Garson (2011) added that constructs represent latent variables, for example in this case represented by job demands and job resources, and cannot be measured directly but rather rely on measurable indicator variables such as workload or social support. Indexes and scales in surveys are designed to measure constructs. Their reliability is

increased when the individual additive sums of items representing the same latent variable are closely interrelated (Garson, 2011).

The survey instruments drawn from for this study have internal consistency measurements related to those individual factors and variables that have been combined into various dimensions related to job demands and job resources. Attitude measures, as opposed to factual measures, are anchored in several key characteristics that contribute to reliability

- population characteristics
- topics assessed by the question or statement
- question design, wording, context, and response formats
- the range of environmental factors surrounding the actual research (Alwin & Krosnick, 1991).

Where sets of items are designed to measure a latent variable, such as emotional demands, Likert scale items can be combined to form an index which represents the additive sum of the items in each category of variables (Garson, 2011).

Various studies of the *Experience and Evaluation of Work* (VBBA) and *Move for Your Life* questionnaires have noted that scales measuring the broader dimensions of job demands and job resources, and their subsets of emotional demands, workload, social support, performance feedback, and supervisory coaching, have demonstrated alpha levels of at least .70 or greater up to .87 (Bakker, van Veldhoven, & Xanthopoulou, 2010; Schaufeli, Bakker, & van Rhenen, 2009; van Veldhoven & Broersen, 2003; van Veldhoven deJonge, Broersen, Kompier, & Meijman, 2002; van Veldhoven, Taris,

deJonge, & Broersen, 2005). The VBBA scales have been further refined by using Mokken scale analysis, a method of psychometric analysis or latent trait approach which indicates scales that perform unidimensionally to a stronger mathematical criteria in achieving reliability and overall measurement quality (Garson, 2011; van Veldhoven & Broersen, 2003; van Veldhoven, deJonge, et al., 2002).

Table 1 presents Cronbach's alpha measures for the indicators or dimensions of job demands as applied to the proposed study. The alphas for workload, changes in task, and emotional demands are all in the acceptable range of .70 up to .90 or greater, indicating significant correlations among the individual items in the survey and the corresponding aggregate indicators for job demands (Field, 2005; Garson, 2011; Gliem & Gliem, 2003; Terwee et al., 2007).

While no significant internal consistency measure was given for the two scale items measuring computer and technology problems, it was found that the summation of the two items were highly and positively related ($r = .70$, $p < .001$) and thus significant as measures (Bakker, Demerouti, & Schaufeli, 2003). Terwee et al. (2007) also noted that alpha can be high even when only two items combine to create a subscale of a variable being measured. The finding of the relationships of the two computer items was sufficient to sum the two items into a single index measure for computer and technology problems (Bakker et al., 2003).

Table 1

Internal Consistency Measures for the Individual Indicators of Job Demands

Indicators	α
Workload	.76
Changes in tasks	.82
Emotional demands	.74
Computer/technology problems	-[a]

Note: Adapted from "Dual Processes at Work in a Call Center: An Application of the Job Demands-Resources Model," by A.B. Bakker, E. Demerouti, and W. B. Schaufeli, 2003, *European Journal of Work and Organizational Psychology, 12,* p. 403. Copyright 2003 by Psychology Press, Ltd.

[a]While no significant internal consistency measure was given for the two scale items measuring computer and technology problems, it was found that the summation of the two items were highly and positively related ($r = .70$, $p < .001$) and thus significant as a single index measure for *computer/technology problems* in the original study (Bakker et al., 2003).

Table 2 presents Cronbach's alpha measures for the indicators of job resources. The alphas for social support, supervisory coaching, and performance feedback are all in the acceptable range of .70 up to .90 or greater, indicating significant correlations among the individual items in the survey and the corresponding aggregate indicators for job resources (Field, 2005; Garson, 2011; Gliem & Gliem, 2003; Terwee et al., 2007). The significantly higher alphas for supervisory coaching and performance feedback indicate a higher reliability given that they represent approximately the same number of scale items compared to several other measures in the various indicator sub scales of the survey.

The lower reliability coefficient for time control, while noted as .02 below what is considered the required cut-off for a *good scale*, may be considered acceptable down to as low as .60 in certain research conditions and applications (Garson, 2011). The reviewed literature did consistently indicate however, that the most common range for a good scale was typically between the .70-.90 ranges as mentioned, with .80 being an ideal minimum research alpha (Alwin & Krosnick, 1991; Field, 2005; Garson, 2011; Gliem & Gliem, 2003; Terwee et al., 2007). The explanation for a lesser internal reliability score for time control may be due in part to this particular scale being developed and tested specifically for the purposes for a private sector call center study (Bakker, Demerouti, & Schaufeli, 2003).

Table 2

Internal Consistency Measures for the Individual Indicators of Job Resources

Indicators	α
Social support	.72
Supervisory coaching	.82
Performance feedback	.83
Time control	.68

Note: Adapted from "Dual Processes at Work in a Call Center: An Application of the Job Demands-Resources Model," by A.B. Bakker, E. Demerouti, and W. B. Schaufeli, 2003, *European Journal of Work and Organizational Psychology, 12*, p. 403. Copyright 2003 by Psychology Press, Ltd.

Validity. Validity is achieved by correlating the different measures with the related variables (Singleton & Straits, 2010). In this study, the specific measures of

working conditions in the form of job demands and job resources have been previously correlated to absenteeism and turnover intention (Bakker, Demerouti, & Schaufeli, 2003). Additionally, validity is measured and supported by previous intercorrelations established between the working conditions and variables such as exhaustion and the composite factors related to work engagement. These collective evidentiary findings support the requirements for criterion and construct validity (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Schaufeli & Bakker, 2003; Seppala, Mauno, Feldt, Hakanen, Kinnunen, Tolvanen, & Schaufeli, 2009; Singleton & Straits, 2010).

Data Analysis

Means, standard deviations, internal consistencies, and correlations among the variables were examined and presented as the descriptive findings of this study. Average scale values for each individual factor being measured were combined into aggregate measures. Data collected from the proposed pilot of the survey was run through the data analysis tools to also pre-test the process and methods described.

Model and Hypotheses. Figure 1 depicts the model of the study variables. Job demands are theorized to have a direct and significant relationship with absenteeism and turnover intention. Job resources are theorized to have a direct and significant relationship with turnover intention and absenteeism.

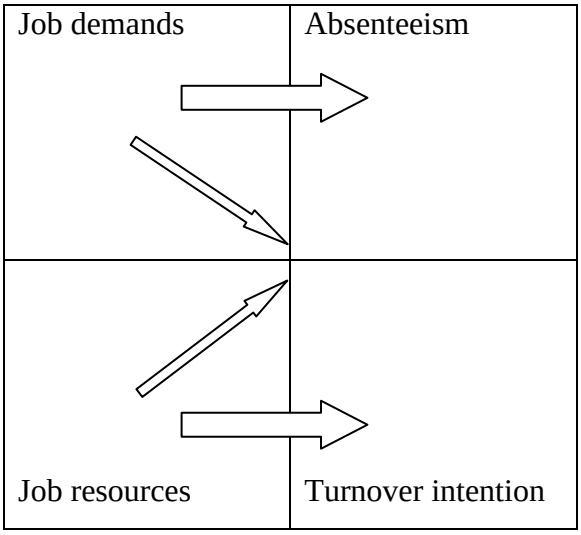

Figure 1. Relationship between the independent (job demands and job resources) and dependent variables (absenteeism and turnover intention)

Given this construct, the specific hypotheses of the study related to the research questions are:

Hypothesis 1_0: There is no significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and absenteeism as measured by absence duration.

Hypothesis 1_a: There is a significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and absenteeism as measured by absence duration.

Hypothesis 2_0: There is no significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and absenteeism as measured by long term absence.

Hypothesis 2_a: There is a significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and absenteeism as measured by long term absence.

Hypothesis 3_0: There is no significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and turnover as measured by turnover intention.

Hypothesis 3_a: There is a significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and turnover as measured by turnover intention.

Hypothesis 4_0: There is no significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and absenteeism as measured by absence duration.

Hypothesis 4_a: There is a significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and absenteeism as measured by absence duration.

Hypothesis 5_0: There is no significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and absenteeism as measured by long term absence.

Hypothesis 5_a: There is a significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and absenteeism as measured by long term absence.

Hypothesis 6_0: There is no significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and turnover as measured by turnover intention.

Hypothesis 6_a: There is a significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and turnover as measured by turnover intention.

To examine and test these hypotheses, all data, calculations, statistical analysis, and tables were developed using Microsoft Excel, SPSS, and SurveyMonkey Analytics software. Babbie (1990) noted in particular that the measurement and association of data to understand relationships and meaning related to hypotheses in survey work requires a back and forth process for the researcher. The analysis includes a detailed discussion of the statistical findings as well as interpretations of the meaning of the implied relationships among and between the descriptive data. This process was evolved in relation to the issues of absenteeism and turnover intention in 911 call centers and the specific hypotheses developed about their relationships to different variables.

Survey composite measures. Composite measures for job demands and job resources, as well as measures for absenteeism and turnover intention were attained through an additive summation process of the data for each individual job factor in the survey. Each job factor was addressed with a series of individual statements. The individual job factors were segregated and presented to respondents in specific sections within the survey. Each section was prefaced with a brief description of the purpose as

well as instructions for responding to each statement. The entire survey is available for review in Appendix D of this document.

Job demands were measured by the indicated process of summing the data from the sets of statements related to the specific factors of job demands, represented as four observed variables. The composite scores for each observable variable create an individual index for the corresponding job factor.

- *work load* as an individual index is measured by a composite of 6 items which includes the example "I have too much work to do," scored on a 5-point scale from (1) *strongly disagree* to (5) *strongly agree* (Schaufeli, 2006; van Veldhoven & Meijman, 1994)
- *changes in tasks* as an individual index is measured by a composite of 5 items which includes the example "I find it difficult to adapt to changes in tasks," scored on a 5-point scale from (1) *never* to (5) *always* (van Veldhoven & Meijman, 1994)
- *emotional demands* as an individual index is measured by a composite of 6 items which includes the example "I have to work under time pressure," and will be scored on a 5-point scale from (1) *never* to (5) *always* (Schaufeli, 2006; van Veldhoven & Meijman, 1994)
- *computer or technology problems* will be measured as a single index with two items (a) "during work, I have to deal with malfunctioning equipment," and (b) "during work, I have computer problems." Both questions will be scored

on a 5-point scale from (1) *never* to (5) *always* (Bakker, Demerouti, & Schaufeli, 2003)

Job resources were measured by the indicated process of summing the data from the sets of statements related to the specific factors of job resources, represented as four observed variables. The composite scores for each observable variable create an individual index for the corresponding job factor.

- *social support* as an individual index is measured by a composite of 6 items which includes the example "if necessary, I can ask my co-workers for help," scored on a 5-point scale from (1) *strongly disagree* to (5) *strongly agree* (Schaufeli, 2006; van Veldhoven & Meijman, 1994)
- *supervisory coaching* as an individual index is measured by a composite of 7 items which includes the example "I can count on my supervisor to resolve conflicts between coworkers," scored on a 5-point scale from (1) *never* to (5) *always* (Schaufeli, 2006; Scandura & Graen, 1984)
- *performance feedback* as an individual index is measured by a composite of 7 items which includes the example "my job gives me opportunities to find out how well I am doing," scored on a 5-point scale from (1) *strongly disagree* to (5) *strongly agree* (Schaufeli, 2006; van Veldhoven & Meijman, 1994; Scandura & Graen, 1984)
- *time control* as an individual index is measured by a composite of 4 items which includes the example "during my shift, there are sufficient opportunities for short breaks," scored on a 5-point scale from (1) *strongly*

disagree to (5) *strongly agree* (Schaufeli, 2006; van Veldhoven & Meijman, 1994)

The latent factor *self-reported absenteeism* as a dependent variable is operationalized by the two individual indicators of *absence duration* and *long term absence.* Studies indicate that sickness absence, as a complex combination of social, organizational, and personal factors, has both voluntary and involuntary constructs related to and measurable in the context of job demands and job resources (Dekkers-Sanchez, Hoving, Sluiter, & Frings-Dresen, 2008; Schaufeli, Bakker, & van Rhenen, 2009). Voluntary absence is a job resource issue and is more closely associated with and operationalized by frequency of absence as measured by the number of times absent over a specific period, regardless of length (Schaufeli et al, 2009). The survey measured frequency with a single item "How often have you missed work in the last 12 months due to illness?" (Schaufeli, 2006).

Involuntary sickness absence is generally associated with job demands and indicators including workload and emotional demands (Schaufeli et al., 2009). The construct of involuntary sickness is operationalized by absence duration, or more simply, time lost. The survey specifically addressed this indicator with two self-report items (a) "In the past 12 months, how many days have you missed work because of illness?" and (b) "In the last 12 months, I have missed work for periods longer than two weeks due to illness." The four total items measuring sickness absence are derived from the instrument developed by Schaufeli (2006).

An index for the composite measure of the dependent variable *turnover intention* was derived from 4 items from the instruments developed by Schaufeli (2006) and van Veldhoven and Meijman (1994). Statements used to measure turnover intention address contemplating leaving (2 items) "I sometimes think about changing my job," scored on a 5-point scale from (1) *never* to (5) *always*, and the consideration of taking action (2 items) "next year, I plan to look for a job outside of this organization," scored on a 5-point scale from (1) *strongly disagree* to (5) *strongly agree.*

Demographic and employment related data, which included work site location, age, gender, job position, and length of employment, was collected as individual data points asked for in single questions at the beginning of the survey. There was no composite relevance to this data. However, the information was important and significant for the overall interpretation and analysis as the demographic and work-level data could potentially provide insight into relationships between the variables under study and individual level information. This data set was asked for in the beginning of the survey. The intent was to clearly explain the relevance, purpose, and need for the least intrusive individual-level data for the purposes of the study.

Protection of Participants' Rights

Participation in this study was designed to be 100% voluntary. All communications to potential participant organizations and informed consent information (Appendix B and C) clearly indicated that participation in the study was completely voluntary. The study and survey instrument to collect data were designed to be completely anonymous. The questionnaire did not provide any means for respondents to

insert or include their name or any personal identifying information. Introductory communications clearly stated the privacy precautions and safeguards built into the research design. All documents available to potential respondents clearly articulated the intended uses and distribution of the findings of the survey. Participating organizations were asked to distribute information about the survey to their employees either by e-mail or by paper method. The primary management contact for the study was solely responsible for distributing the instructions and the web address for employees to voluntarily participate in the survey.

By using a third party survey administration mechanism, SurveyMonkey, to electronically host the survey and collect the responses, participant privacy and anonymity was protected in the following ways

- The type of information collected is disclosed to all participants
- The use of the information is disclosed to all participants
- Respondents were able to contact the researcher to ask questions
- The survey instrument was accessible through an independent web address link that is security encrypted
- IP address collection and storage technologies were disabled and was verifiable via the third party survey administrator (SurveyMonkey.com, 2011)
- All raw research data are stored in independent, secure locations on secure, password-protected servers

While work location was asked for to determine the geographic location of the responses, no individual-level analysis for participating work sites was conducted, nor

were individual level work site surveys be made available to managers or employees of any individual sites. Since the survey asked for individual level demographic data such as gender, length of employment, position, and specific work site location, this safeguard further ensured that the privacy of individual responses was strictly protected, especially in cases of smaller 911 call centers with few employees. The general findings of the data collection and research in aggregate was offered and remains available upon request.

Summary

The research design drew upon validated applications of the job demands-resources model in a survey targeting emergency 911 call center call receivers and dispatchers in the United States. The analysis of data includes correlations to determine whether or not any statistically significant relationships existed between the independent variables and absenteeism and turnover intention in 911 call centers. Chapter 4 presents findings related to the data drawn from the survey as well as provides a detailed analysis of the data in relation to the proposed research questions and hypotheses presented in chapter 1.

Chapter 4: Results

Introduction

Chapter 4 contains the results of the survey. The purpose of this chapter is to provide a description of the research and data collection processes and method and how the research unfolded. A discussion of the respondent sample provides a profile of the target participant population and the related demographic and employment-related statistics. A pilot study discussion presents the initial pretest of the survey instrument at a single site and the resulting adjustments made as a result of the pilot study effort. Additionally, the chapter focuses on evaluating the data in relation to the research questions and the study hypotheses and provides results of the data analysis for each of the six research questions. Chapter 4 concludes with a summary of the intent and findings and an introduction to the purpose of chapter 5.

Data Collection

The data collection process occurred in two stages. A single-site pilot study was conducted to launch and evaluate the data collection process. After feedback and minor adjustments to the survey instrument, the full survey was launched to all sites. The entire data collection process occurred over a 30 day period.

Participant Sites

The sites participating in the survey were recruited through direct solicitation of call center operations managers. To ensure that a sizeable and relatively diverse sample was obtained, 911 call centers were selected from the Pacific Northwest and along the

west coast of the United States representing four different operational formats serving county-wide, state, or significant suburban and urban metropolitan geographic areas:

- regional, free-standing operations
- sheriff's office operations
- metropolitan police department operations
- statewide police operations

A total of 17 sites were contacted. Operations Manager contacts were obtained through a web site search for each selected location. Of the 17 sites contacted, 11 agreed to participate and offer the survey to their qualified employees. Reasons for not participating ranged from pending labor contract matters where absenteeism was an issue to the inability to obtain internal or chain-of-command permissions to participate within the timeframe set by the researcher. The participating sites included

1. King County, WA Sheriff's Office 911 Center
2. Kitsap County, WA Central Communications (CENCOM)
3. King County, WA Valley Communications (VALLEYCOM)
4. Pierce County, WA Law Enforcement Support Agency (LESA)
5. Skagit County, WA 911 Center
6. Spokane County, WA 911 Center
7. The Washington State Patrol Communications Division (WSP)
8. Portland, OR Bureau of Emergency Communications (BOEC)
9. San Francisco, CA Department of Emergency Management/Emergency Communications Division

10. Los Angeles, CA Police Department Communications Division (LAPD)

11. San Diego, CA Sheriff's Department 911 Center

Every site manager was initially contacted via a detailed e-mail solicitation with attachments that included

- detailed disclosure and consent document for participants
- survey instrument
- solicitation flyer for potential qualified respondents
- letter of cooperation
- data use agreement

All e-mails were followed up with a phone call to site managers to answer questions about the project and to obtain feedback on critical issues such as (a) the tone and positioning of communications for respondent recruitment, (b) timing of the survey, (c) survey statements, questions, and respondent data request, and (d) recommended minimum length of time for the survey to be in the field to maximize potential respondent participation.

Only five agencies were able to complete the requested data use agreement. The data use agreement was ultimately withdrawn during the IRB process after it was determined that the general nature of the requested data for absenteeism and turnover for a two year period could (a) be obtained as an open public records request in all participating states, and (b) was not information that was readily or consistently available in all participant call centers. Where this information was not being kept current, compiling the data would have required an unreasonable request of staff time and

resources. Because of these constraints, timeliness would likely have been an issue. Ultimately, the requested data was not significant to the actual research questions or hypotheses and did not change the research approach.

Respondent Qualification

The target population for the study focused exclusively on those 911 call center employees who by function were defined as (a) a call receiver, (b) a call dispatcher, or (c) someone who performed both functions. Managers, supervisors, and all other staff were excluded from the survey. However, there was no way of knowing whether or not any employee other than the target sample would have participated. The survey instrument as well as all materials made available did clearly indicate the desired qualifications for participants and did ask for all others to exit the survey without completing it.

The total number of qualified respondents for all participating sites was 1,264, as reported by individual site managers. By function, the potential respondents broke down to 575 call receivers and 689 call dispatchers. In almost all cases, call dispatchers were reported to perform both functions. In 4 cases, there were no call receivers as all qualified employees were identified as call dispatchers. This may have been attributable in some cases to a difference in the definition of functions or simply that all call takers performed both functions. Any discrepancies in definitions would matter only at the individual site level and would not be material to the underlying study as all respondent qualifying requirements were met and managers and supervisors were excluded by design.

Survey Administration

A unique, secure web site was set up at www.e911research.com exclusively to administer the survey. The site provided respondents with (a) introductions, (b) complete background on the project, (c) all required consent disclosures and acknowledgement, (d) research contact information, (e) access to the proposal, abstract, and the researcher's curriculum vitae, and (f) a secure link to the survey site hosted by SurveyMonkey. No paper and pencil surveys or materials were offered. All communication to and recruitment of qualified participants was the independent responsibility of the individual site management. An employee recruitment flyer and a participation reminder flyer were made available to all managers and they were asked to distribute the flyer to all qualified employees at their discretion. Regular and ongoing e-mail communication was maintained with all site contacts throughout the process. All site managers were called and e-mailed to notify them that the survey site was open for access.

Pilot Study

A pilot run of the study was first conducted in Kitsap County Central Communications (CENCOM), in Washington State. The site was open for 10 days. The purpose of the pilot was to (a) ensure that there were no technical problems with the web site or the SurveyMonkey link, (b) ensure that directions for participation were clear, (c) ensure that access to the survey and taking the survey were problem free, (d) obtain feedback on the survey instrument via review of responses, and (e) run perform statistical analyses of an initial set of survey responses.

A total of 15 respondents participated in the pilot out of a total of 45 qualified employees at the CENCOM site, for a 33% response rate. A review of the responses

indicated that clarification would be helpful in differentiating the number of days absent from the number of times absent in determining absence duration as a measure of self-reported absenteeism. The questions were also modified to ensure that reported sickness absences were attributable to the job. An example of days absent versus times absent was added to each question to help respondents differentiate between the two. Additional clarification was also required to the definition of long term absence. This was achieved by adding language to narrow the definition of long term absence to work-related absence and asking respondents for recall the total days of long term absence versus simply stating whether or not they had missed work because of illness for any period longer than 14 days.

Data from the pilot were downloaded, reviewed, edited, and run through correlation and descriptive analysis in both SPSS and Excel software programs. The pilot was executed without any significant problems and adjustments were made as noted. The survey was then opened to the remaining ten sites. Managers in all agencies had the option to send out recruitment materials upon receipt and at their discretion, allowing the site to be open for nearly two full weeks. An electronic reminder flyer was provided via e-mail to all site managers to pass on to qualified employees as the close of the survey approached. One glitch occurred in the last 24 hours of the survey, causing the survey site to close prematurely. As a result, the site was reopened for one additional 48 hour period. At their discretion, site managers could inform employees of the additional time to take the survey. This yielded four additional completed surveys.

Respondent Data

Participants were from Washington, Oregon, and California. A total of 227, or 18% of all qualified respondents, participated. Of those, 216, or 95.2% of those who started the survey, also completed it. Incomplete surveys were excluded from the data analysis. Table 3 provides more detailed data related to the potential sample and respondent participation.

Table 3

Respondent Participation

Characteristic	**Data**
Total sites participating, *N*	11
Total potential qualified respondents, *N*	1264
Total respondents, *N*	227
• Sample participants, %	18.0%
Total completed surveys, *N*	216
• Completed survey, %	95.2%
• Completed potential respondents, %	17.0%

The first 10 questions of the survey asked for demographic and work-related data. Table 4 provides those descriptive statistics about participants. Survey participants were predominantly women between the age of 31 and 50 years who have been call receivers or dispatchers for an average of 10 years.

Table 4

Respondent Profile Data: Demographics and Employment

Characteristic	**Data** (*N*=227)
Gender	
• Male	22.8%
• Female	77.2%
Average age, years	
• 31-50	61%
• 20-30	24%
• 51-60	13%
• >60	2%
Job function	
• Call receivers	36.3%
• Call dispatchers	3.5%
• Do both jobs	60.2%
Training	
• Hired and trained on the job	92.0%
• Went to school and trained on the job	5.8%
Tenure	
• Average years as receiver or dispatcher	10.5
• Average years in current position	8.7

Survey respondents have been in their current positions for at least 8 years on average and most all were hired and then trained on the job. Table 5 provides a profile of respondents' average work hours and overtime.

Table 5

Average Work Hours and Overtime

Characteristic	**Data** (*N*=227)
Hours (hrs) per week	40.5
Voluntary overtime hrs/week	3.5
Mandatory overtime hrs/month	4.3

Questions about work hours helped to determine whether or not respondents were likely full time employees, and to what degree they worked voluntary and mandatory overtime. All survey respondents work an average of 3.5 voluntary overtime hours per week and a little over 4 mandatory overtime hours in a month. While there were no specific research questions related to overtime, it was worthwhile to capture and understand the amount of overtime used among respondents. As noted in the literature review in chapter 2, excessive, mandatory overtime for reasons such as chronic understaffing has been related to psychological and physical problems including exhaustion and burnout in various industries including call centers.

Data Analysis and Results

Research Questions

The research questions for this study address any possible relationships between job demands and job resources and the dependent variables absenteeism as measured by absence duration and long term absence, and turnover intention as a single measure.

Research question 1. The first research question looked at job demands and absenteeism as measured by the indicator absence duration: What is the relationship between job demands and absenteeism as measured by absence duration? The calculation for absence duration was obtained by dividing the number of self-reported days absent for 12 months by the number of self-reported times absent for the same period. This data was correlated with the four summed and averaged indicators that made up job demands. The null and alternative hypotheses to address this question were:

- Hypothesis 1_0: There is no significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and absenteeism as measured by absence duration.
- Hypothesis 1_a: There is a significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and absenteeism as measured by absence duration.

A Pearson product-moment correlation analysis did not confirm a significant relationship between job demands and absence duration, failing to reject the null hypothesis (r = -.002, p = .978).

Research question 2. The second research question looked at job demands and absenteeism as measured by the indicator long term absence: What is the relationship

between job demands and absenteeism as measured by long term absence? The null and alternative hypotheses to address this question were:

- Hypothesis 2_0: There is no significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and absenteeism as measured by long term absence.
- Hypothesis 2_a: There is a significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and absenteeism as measured by long term absence.

A Pearson product-moment correlation analysis did not confirm a significant relationship between job demands and long term absence, failing to reject the null hypothesis (r = -.021, p = .753).

Interestingly, a different result was obtained based on an additional absenteeism measure—*absence due to work*—that was added to the survey based on the analysis of the pilot data. This measure was based on the self-reported responses of participants to a single question (measured on a Likert scale) asking them to rate from never (1) to always (5) the degree to which their absences (the dependent variable) were due to work (the independent variable). A Pearson product-moment correlation analysis of this additional data suggested that a significant relationship between job demands and absence due to work (r = .303, p < .00001).

Research question 3. The third research question looked at job demands and turnover intention as a single measure: What is the relationship between job demands and

turnover as measured by turnover intention? The null and alternative hypotheses to address this question were:

- Hypothesis 3_0: There is no significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and turnover as measured by turnover intention.
- Hypothesis 3_a: There is a significant relationship between job demands as measured by workload, emotional demands, changes in tasks, and computer problems and turnover as measured by turnover intention.

A Pearson product-moment correlation analysis did confirm a significant relationship between job demands and turnover intention, rejecting the null hypothesis and accepting the alternative hypothesis ($r = .303$, $p < .00001$).

Research question 4. The fourth research question looked at job resources and absenteeism as measured by the indicator absence duration: What is the relationship between job resources and absenteeism as measured by absence duration? The null and alternative hypotheses to address this question were:

- Hypothesis 4_0: There is no significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and absenteeism as measured by absence duration.
- Hypothesis 4_a: There is a significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and absenteeism as measured by absence duration.

A Pearson product-moment correlation analysis did not confirm a significant relationship between job resources and absence duration, failing to reject the null hypothesis (r = -.133, p = .052).

Research question 5. The fifth research question looked at job resources and absenteeism as measured by the indicator long term absence: What is the relationship between job resources and absenteeism as measured by long term absence? The null and alternative hypotheses to address this question were:

- Hypothesis 5_0: There is no significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and absenteeism as measured by long term absence.
- Hypothesis 5_a: There is a significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and absenteeism as measured by long term absence.

A Pearson product-moment correlation analysis did confirm a significant relationship between job resources and long term absence, rejecting the null hypothesis and accepting the alternative hypothesis (r = .162, p = .017).

The absence due to work measure was also tested against job resources to see if there were any potential relationships between the variables. A Pearson product-moment correlation analysis did suggest a significant negative relationship between job resources and absence due to work (r = -.409, p < .00001).

Research question 6. The sixth research question looked at job resources and the single measure turnover intention: What is the relationship between job resources and

turnover as measured by turnover intention? The null and alternative hypotheses to address this question were:

- Hypothesis 6_0: There is no significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and turnover as measured by turnover intention.
- Hypothesis 6_a: There is a significant relationship between job resources as measured by social support, supervisory coaching, performance feedback, and time control and turnover as measured by turnover intention.

A Pearson product-moment correlation analysis did confirm a significant negative relationship between job resources and turnover intention, rejecting the null hypothesis and accepting the alternative hypothesis (r = -.482, p < .00001).

The following table provides a summary of relevant descriptive statistics and correlations between the study's primary variables.

Table 6

Means, Standard Deviations, and Correlations between Job Demands, Job Resources, and the Measures for Absenteeism and Turnover Intention

	Mean	SD	Absence duration	Long term absence	Turnover intention
Job demands	3.02	0.48	.002	-.021	.303**
Job resources	3.35	0.56	-.133	.162*	-.482**

(N = 216)

Note. *significant at the p < .05 level; **significant at the p < .01 level.

Absence due to work. The additional analysis for the dependent variable *absence due to work* was not part of the initially proposed study. Based on an analysis of the pilot data this additional measure was added to the instrument. Bakker, Demerouti, and Schaufeli (2003) noted that absence duration and long term absence had proven to be weak measures of absence beyond exhaustion and a physical impairment associated with computer keyboarding called Repetitive Strain Injury (RSI). The correlations here suggests that absence due to work, as an agreement measure, may have relationships with job demands and job resources and may be appropriate for future study. The specific Likert scale statement presented to respondents was: *My sickness absence has been due to work*. Agreement was along a 5 point scale of "never" to "always." Table 7 provides descriptive statistics and correlations for the independent variables and absence due to work.

Table 7

Means, Standard Deviations, and Correlations between Job Demands, Job Resources and the Absence Due to Work Measure

	Mean	SD	Absence due to work
Job demands	3.02	0.48	.303*
Job resources	3.35	0.56	-.409*

(N = 216)

Note. *significant at the $p < .01$ level.

Summary

The data for this study was obtained through a discrete web site and link to a secure, third party survey administrator. 216 completed surveys were generated from 911 call center call receivers and call dispatchers in Washington State, Oregon, and California. Six critical research questions and corresponding hypotheses were developed to determine whether or not relationships existed between the variables. An additional dependent variable, *absence due to work*, was also examined against job demands and job resources based on a question added to the survey as a result of the pilot data analysis.

Pearson product-moment correlation analysis was applied to the data to determine if significant relationships existed between the dependent variables, absenteeism and turnover intention, and the independent variables of job demands and job resources. A significant correlation (*p*-value less than .00001) was found between job demands and turnover intention. But no relationship was found between job demands and absence duration or long-term absence. However, a significant relationship (*p*-value less than .00001) was found between job demands and absence due to work.

The analysis revealed a significant relationship between job resources and long term absence at the 5% level. This finding raises questions, as this is inconsistent with prior research and theory. No negative relationship was found between job resources and absence duration. A significant, negative relationship was shown between job resources and turnover intention (*p* value less than .00001). A significant negative relationship (*p* value less than .00001) was also suggested in the correlation of job resources to absence due to work. These findings and their implications for future study and social change

will be examined in chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

Overview

The purpose of this study was to determine whether or not relationships existed between specific job demands and job resources and absenteeism and turnover intention in 911 call centers among call receivers and call dispatchers. The literature review in chapter 2 demonstrated a significant body of study in both public and private call centers internationally around the research topic as well as the variables involved. However, the 911 call center segment in the United States is a somewhat unique call center sector and has seen extremely limited academic inquiry, especially in relation to the research topic and specific research questions applied here.

A 2003 Dutch telecom company study (Bakker, Demerouti, & Schaufeli, 2003) had specifically addressed absenteeism and turnover intention in relation to job demands and job resources. This grounding study provided a framework for designing, developing, and executing this research as a web-based survey of 911 call center call receivers and dispatchers in the western United States. Prior research findings had been used in the previous study to develop the specific indicators of job demands and job resources that would be applied to this research. The objective was to use correlation analysis to determine whether or not any statistical relationships existed between the dependent variables absenteeism as measured by absence duration and long term absence, and turnover intention as a single measure, when specifically applied to 911 call centers and a

very specific employee class. An additional independent variable related to absenteeism, absence due to work, was also examined against the independent variables. There was no specific research question or hypothesis developed for this single measure for absenteeism as it was added as a result of the pilot data analysis. It was considered in the analysis as a matter of its inclusion in the survey and validated applications.

Chapter 5 presents a summary and interpretation of the findings as discussed and detailed in chapter 4. Additionally, a discussion of the implications for social change related to the research outcomes of this study are addressed, concluding with recommendations for action and future research study around this topic.

Summary of the Findings

The study was built around six research questions seeking to determine whether or not relationships existed between absenteeism and turnover intention and specific independent variables identified with call center work in the form of job demands and job resources. Each of the independent variables had specific indicators that were measured

- Job demands
    - workload
    - changes in tasks
    - emotional strain
    - computer and technology problems
- Job resources
    - social support
    - supervisory coaching

- performance feedback
- time control

The dependent variable absenteeism was measured by absence duration and long term absence. The dependent variable turnover intention was a single item measure. The following table provides the outcomes for testing the specific hypotheses related to the variables under study.

Table 8

Summary of the Research Findings for Correlations between the Variables

Variable	ABDUR	LTAB	TOI
Job demands	(.002, .978)	(-.021, .753)	(.303**, p<.001)
	fail to reject Ho	*fail to reject Ho*	*reject Ho*
Job resources	(-.133, .052)	(.162*, .017)	(-.482**, p<.001)
	fail to reject Ho	*reject Ho*	*reject Ho*

Note. ABDUR = absence duration; LTAB = long term absence; TOI = turnover intention. All values in parentheses = *r*, *p* for individual correlations (*n* = 216). *Correlation is significant at the .05 level; ** Correlation is significant at the .01 level.

An additional independent variable, absence due to work, was examined separately against job demands and job resources. Table 9 isolates the results of correlation analysis for the single dependent variable.

Table 9

Summary of the Research Findings for Correlations between Job Demands and Job Resources and Absence Due to Work

Variable	ABWRK
Job demands	(.303*, p < .001)
Job resources	(-.409*, P < .001)

Note. ABWRK = absence due to work. All values in parentheses = *r, p* for individual correlations (*n* = 216). There was no hypothesis developed specific to testing the dependent variable absence due to work. Given the statistically significant correlations, the null hypothesis would be rejected in both cases and the alternative hypothesis accepted.
* Correlation is significant at the .01 level.

Interpretation of the Findings

One of the limitations of this research was the inability to obtain any qualitative data in support of the variables identified in the grounding study applied to a 911 call center. As such, the indicators for job demands and job resources applied specifically to the Dutch telecom study could not be assumed to be entirely relevant to 911 call receivers and call dispatchers. The specific absenteeism measures were also known to be weak relative to the underlying study. However, these assumptions were understood in the design of this research and thus made the application of these variable indicators and measures for hypothesis testing in a 911 call center environment worthwhile. The results obtained will help to provide input and direction for future study based on the variables applied to this study.

The research literature reviewed in chapter 2 for this project presented a significant body of evidence supporting the contention that the Job Demands-Resources Model (JD-R) applied to absenteeism and turnover across many industries, including call centers. The critical conclusions in the literature were that job demands, as a potential but not absolute energy depletion process, would have a significant positive relationship with outcomes such as exhaustion, burnout, and psychological stress, possibly leading to sickness or other forms of absenteeism behavior. Job demands are not necessarily negative, and they may not have the same overall effect on employee behavior in the form of turnover intentions (Bakker, Demerouti, & Schaufeli, 2003).

Conversely, job resources, as a motivating influence and driver of employee engagement or commitment, tended to be negatively associated with turnover intention when job resources are sufficient, especially in relation to job demands. The literature further suggested that adequate job resources have the power to reduce the impacts of high job demands (Bakker, et al., 2003). The anomaly in this study not supported by the literature review was the finding of a positive and significant statistical relationship between job resources and long term absence. There is no clear alternative explanation for a positive relationship between job resources and long term absence, nor a logical process tie based on the theory reviewed for this study.

These underlying theoretical themes were critical drivers behind the application of the Dutch telecom study to a 911 call center. Ultimately, this theory application evolved the central research question of whether or not working conditions in the form of job demands and job resources, could be correlated with absenteeism and turnover intention.

The hypotheses then were constructed to test for relationships between the variables based on the existing and validated indicators for job demands and job resources.

Outcomes

Job demands. The first research question sought to establish whether or not relationships existed between job demands and absenteeism as measured by absence duration. The findings, as represented in Table 8, do not provide sufficient evidence to reject the null hypothesis. It is concluded that there is no relationship between job demands and absence duration based on the indicators used for job demands. Specific to 911 call centers, job demands as measured by workload (r = .144, p = .034), changes in tasks (r = .076, p = .266), emotional strain (r = -.012, p = .862), and computer and technology problems (r = -.126, p = .064), have varying and inconsistent outcomes when measured with absence duration. Only workload, as a single indicator, had a significant statistical relationship with absence duration.

The survey questions related to absenteeism duration and long term absence were modified after the pilot test to more narrowly define absence as sickness absence related to work. This is a substantive clarification that more tightly framed responses to absenteeism questions and statements directly to respondents' working conditions as opposed to any other, non-work related reasons for absence. The differences between and reasons for voluntary and involuntary absence have been noted in the literature review of this study. Research findings indicate that unscheduled absence, which can include sickness absence, has been found to be for reasons other than sickness in 65% of cases (Avey, Patera, & West, 2006; Navarro & Bass, 2006).

Other health impairments, such as exhaustion and physical issues that could include repetitive strain injury, back problems, and other work-related physical impairments have also been noted to contribute to absenteeism in call center work (Bakker, Demerouti, & Schaufeli, 2003). Additionally, an extreme outlier of 89 days absence was eliminated from the absence duration data. This was held constant throughout the calculations and analyses related to absence duration that follow. Another factor to be considered in the outcomes for question 1 is the relatively low average overtime levels reported by respondents, both voluntary and mandatory. While reasons for overtime were not qualified beyond voluntary and mandatory, a UK police call center study has tied overtime to chronic staffing shortages in considering employee issues such as absenteeism and turnover (Bain, Taylor, & Dutton, 2005).

Research question 2 looked at the possibility of relationships between job demands and absenteeism as measured by self-reported long term absence. The survey was also modified after the pilot to clearly ask whether or not respondents had experienced any absences for periods of 14 consecutive days or longer in the past twelve months as a result of sickness that was related to work. The intent of this clarification was to eliminate any other types of long term absences that could be reported for reasons such as maternity/paternity leave, elective surgery, or non-work related injury, disability or leave time. This data was correlated with the four summed and averaged indicators that made up job demands. The findings, as represented in Table 8, do not provide sufficient evidence to reject the null hypothesis. It is concluded that there is no relationship between

job demands and long term absence in 911 call centers based on the indicators used for job demands.

For 911 call centers, job demands as measured by workload (r = -.096, p = .159), changes in tasks (r = -.002, p = .976), emotional strain (r = -.001, p = .992), and computer and technology problems (r = .027, p = .690), have no statistically significant relationships when measured with long term absence.

Research conducted by Josephson, Lindberg, Voss, Alfredsson, & Vingard (2008), Bain et al. (2005), and Bakker et al. (2003) in various industries concluded that working conditions that contributed physical, emotional, and psychological stressors could measurably effect long term absence and ultimately turnover. In this study, only 6 of 216 respondents, or less than 3% of respondents, reported any long term absence that was attributed to the job. This is noteworthy in comparison to the grounding study where respondents (n = 477) reported a long term absence rate of over 17%. Additionally, there were no significant correlations between the individual job demands indicators of emotional strain and changes in tasks and long term absence. While there appears to be no statistical relationship between job demands and long term absence in 911 call centers, the findings are consistent with theoretical assumptions about the relationship of factors such as emotional strain and other job stressors on long term absence when those factors are significant.

The findings of the lack of relationships for both absence duration and long term absence with job demands are consistent with the underlying study. Bakker et al. (2003) noted that further study is needed to understand any direct linkages that progress from job

demands to health problems and ultimately absenteeism. It is worth noting that the measures of absence frequency, duration, and unexcused absence have been linked more directly to job satisfaction in prior research and theory (Vroom, 1964).

Job demands and sickness absence due to work. As discussed in chapter 4, an additional independent variable related to absenteeism was included in the survey from one of the original Dutch instruments used in this study from a broader series of absenteeism measures. This variable was not specifically tied to a research question or specific hypothesis. The measure was a single item in the survey designed to measure Likert scale agreement related to whether or not a respondent's absenteeism was job related. The correlation analysis between this single item, absence due to work, and job demands, indicated a significant positive relationship ($r = .303$, $p < .00001$). Over 49% of respondents indicated that their sickness absence was due to work some part of the time to always. Putting this response in perspective, respondents self-reported an average of only four sick days over a 12 month period. Nearly half attributed some part of that average to sickness tied directly to the job.

This outcome suggests that there is some relationship that merits further study. Individual level analysis with the indicators of job demands and absence due to work showed significant correlation statistics for workload ($r = .303$, $p < .00001$), changes in tasks ($r = .296$, $p < .00001$), and emotional strain ($r = .197$, $p = .004$). Computer and technology problems, however, did not show any statistical significance in relation to absence due to work even though respondents indicated that they frequently encountered

both computer problems (96%) and malfunctioning equipment (96%) in their 911 call center job (r = .103, p = .133).

The analysis of absence due to work tends to support the suggestion that a qualitative effort to first more narrowly define specific job demand indicators for 911 call center call receivers and dispatchers may be warranted along with further examination of specific and applicable indicators or measures of absenteeism. With the current data, it is risky to assume too much into the results of a single item such as absence due to work as a reliable measure for the purposes of drawing conclusions about relationships (Alwin & Krosnick, 1991; Garson, 2011; Gliem & Gliem, 2003). The results do suggest that if absence is attributable to the job, that specific job demands may have a relationship to that outcome.

The third research question sought to determine whether or not relationships existed between job demands and turnover intention. The findings, as represented in Table 8, provide sufficient evidence to reject the null hypothesis and confirm that there is a significant, but weak positive relationship between job demands and turnover intention for 911 call center call receivers and dispatchers. The finding does not establish a causal relationship between job demands and turnover intent. However there is support for the theoretical premise that when job demands are a weak factor in comparison to job resources, that individuals may be less inclined to be thinking of or planning to leave their jobs (Bakker, Demerouti, & Verbeke, 2004; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Siong, Mellor, Moore, & Firth, 2006).

The literature review in chapter 2 did not establish direct relationships between job demands and turnover. However, researchers have found that when job resources such as social support are low that job demands such as workload have been shown to have a direct and influencing relationship on intention to quit among teachers. This was especially true among new and recent hires (Pomaki, DeLongis, Frey, Short, & Woehrle, 2010). The literature did also suggest more of a behavioral process path and logic from job demands to the potential for absenteeism and ultimately cognitions of leaving. Some evidence has been established across varying occupational groups for relationships between health problems and turnover intention (Bakker, Demerouti, & Schaufeli, 2003). Among respondents in the present study, relative length, frequency, and duration of absence are not significant and therefore suggest an alternative interpretation for less significance in the behavioral path from absence to turnover in this case.

In the broader call center universe, turnover is often lowest in the more technical, high commitment operations where there may be more attachment and lower levels of stress and burnout (Bain, Taylor, & Dutton, 2005; Holman, Batt, & Holtgrewe, 2007). In the present study, the respondents averaged over 10 years on the job and over 8 years in their current positions, indicating some level of stability among those willing to participate in the study. Vroom (1964) and Adams (1963) theorized that other variables such as relative unemployment and individual economic stability could have a significant impact on both absenteeism and turnover in relation to individual psychological states and expectations. This more seasoned class of respondents is worth noting in terms of

alternative ways of considering specific outcomes related to the impact and influence of job demands.

Job resources. Research question 4 asked whether or not any relationships existed between job resources and absence duration. The findings, as represented in Table 8, provide sufficient evidence to fail to reject the null hypothesis as there is no significant relationship between job resources and absence duration at the minimum p-value of .05. Study participants generally appeared to have low average levels of self-reported sickness absenteeism days (4 avg.) and times (2 avg.) over the 12 month period, suggesting that absence duration as a measure was not a factor in general.

The findings are consistent with previous call center theory and research that could not establish significant correlations with the measure of absence duration and job demands or job resources (Bakker, Demerouti, & Schaufeli, 2003). Job resources generate a motivational process that may be viewed as a more positive, affective, and committed state that may also reduce absenteeism generally (Llorens, Bakker, Schaufeli, & Salanova, 2006). While days absent and frequency of absence appear to be low, and perhaps a factor, there is no causal relationship that can be applied here. However, it is noteworthy in the context of previous study that job resource-aligned states of absorption, vigor, dedication, and involvement have been correlated as opposites of absence-related physical and psychological conditions such as burnout and exhaustion (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Schaufeli & Bakker, 2003; Seppala, Mauno, Feldt, Hakanen, Kinnunen, Tolvanen, & Schaufeli, 2009).

The fifth research question examined whether or not relationships exist between

job resources and long term absence. The findings, as represented in Table 8, provide sufficient evidence to reject the null hypothesis and accept the alternative hypothesis as there is a significant but weak positive relationship between job resources and long term absence at the 5% level. This weak relationship was a surprise outcome in relation to the findings of Bakker, Demerouti, & Schaufeli, (2003) and the overall assertion that job resources tend to minimize job demands and their associated psychological and physical costs that are also linked to absenteeism. Individual level analysis between the job resource indicators for this study showed inconsistent outcomes with only time management having a significant statistical relationship with the dependent variable. Nursing studies that focused on single job resource factors such as social support and time or job control found that the deterioration of those factors were directly related to long term absence and eventual turnover (Josephson, Lindberg, Alfredsson, & Vingard, 2008). However, in the present study, individual correlations for the job resource measures of social support and time control, a job control indicator, show no relationship for social support to long term absence (r = .026, p = .709) and a weak but positive and significant relationship between time management and long term absence (r = .184, p = .007). The outcome is puzzling.

There is some relationship between job demands and absenteeism factors such as long term absence. But there is little qualitative research data available specific to call centers that provides any additional insight into the drivers of work-related long term absence and the relationship to absenteeism, and especially any pathway connections to job resources. Some studies have concluded that protracted psychological stress related to

call center work can lead to both extended voluntary and involuntary absence where psychological stressors evolve into more serious mental health issues (Hilmer, Hilmer, & McRoberts, 2004; Hilton, Sheridan, Cleary, & Whiteford, 2008). Further research is required to explore how and why there may be a connection between job resources and absenteeism and its factors such as long term absence. This is supported to some degree in the current study in relation to the high percentage of workers who did attribute their sickness absence to work.

Job resources and sickness due to work. The independent variable of sickness absence due to work was also analyzed in relation to job resources. This variable was not specifically tied to a research question or specific hypothesis involving job resources. The correlation analysis between this single item, absence due to work, and job resources, indicated a significant negative relationship ($r = -.409$, $p < .00001$.) between the variables. There can be no causal relationship assumed in the analysis, however, the finding here is consistent with theories about the job demands-resources model and the power of employee job satisfaction, commitment, and engagement (Adams, 1963; Bakker & Demerouti, 2007; Bakker & Demerouti, 2008; Crawford, LePine, & Rich, 2010; deLang, De Witte, & Notelaers, 2008, Vroom, 1965).

The sixth research question looked for relationships between job resources and turnover intention. Based on prior theory, the assumption was that high job resources will be negatively associated with turnover intention. The findings, as represented in Table 8, provide sufficient evidence to reject the null hypothesis and confirm that there is a significant negative relationship between job resources and turnover intention for 911 call

center call receivers and dispatchers. The finding does not establish a causal relationship between job resources and turnover intent. This negative relationship supports prior research that suggests that job resources tend to both minimize the effects of job demands as well as mediate the relationship between job resources and turnover intent (Bakker, Demerouti, & Schaufeli, 2003).

Summary

Given the nature of 911 call centers as emotional labor work and the existing literature support, there was some anticipation that most if not all independent variables in the form of job demands such as workload and emotional strain, might have significant relationships with absenteeism measures. As demonstrated here and established in prior research, the linkage does not appear to exist with the particular job demands indicators that were tested. Self-reported absenteeism specifically attributable to the job appeared to be low among respondents. As suggested, further study may be warranted to better understand the variables specific to 911 call center work that may be related to absenteeism. The significant relationship between job demands and absence due to work also suggests that the measures of absenteeism should also be examined and evaluated further.

The outcomes for job resources tended to support the literature in the assertion that (a) job resources have some level of strength beyond job demands, and (b) that job resources may have some relationship to the interruption of turnover intention. Across all variable measures, the significant relationships in this study were relatively weak, whether positive or negative. The most significant relationship emerged as a negative one

between job resources and turnover intention, also supporting various findings in the literature. The remainder of this chapter will discuss ideas for uses of the findings of this study as well as suggestions for additional research.

Implications for Social Change

The 911 call center segment has only minimally been studied. However, the segment suffers the same turnover and absenteeism challenges as does the call center industry in general. The topic is of interest to the public because the public is both employer and end user. Therefore, the ultimate quality, consistency, and cost of the service are in the public's interest. The purpose of this study was to determine what relationships might exist between specific working conditions in the form of job demands and job resources, and specific measures of absenteeism and turnover intention. Any social value generated by this endeavor has several potential beneficiaries

- First, the managers and supervisors who may receive applicable knowledge about the sources of debilitating job demands as well as those tools in the form of job resources that may also contribute to more engaged and committed employees who are less likely to look elsewhere for employment, or even call in sick.
- Second, the call receivers and call dispatchers who may also be the recipients of better working conditions and gain voice around additional research efforts as a result of a more informed and enlightened management structure in their industry segment.

- Third, the citizenry who relies on this service for the protection of life and property.
- Finally, the academic community and 911 industry trade associations, who may find significant opportunities to contribute to the knowledge base by engaging this critical public service for broader, more in-depth, and evolving study.

Any positive effect on the current levels of absenteeism and turnover in 911 call centers could be measured and monetized. With increasing safety and security threats and pressing economic issues, there are also significant social change implications should research in the 911 segment be pursued further. Simply recognizing and elevating the role of the people behind this work and gaining a greater understanding of their needs would be a good place to start in terms of positive social change.

Recommendations for Action

The findings in this study related to significant negative relationships between job resources and turnover intention indicate an opportunity for 911 call center managers to emphasize those components of JR that have some demonstrated success in reducing turnover. In particular, efforts to enhance and reinforce individual-level relations among and between employees (social support), regular performance feedback, supervisory support, and supervisory coaching continue to demonstrate their power in the workplace and are relevant in the 911 call center environment. Tele-nursing studies cited in the chapter 2 literature review have demonstrated that a strong professional support system creates a functional autonomy and work identity as a sustainable form of self-directed

leadership that leads to intrinsic work motivation, even in high control and high pressure environments. Attention to job resources between supervisors and employees has proven to impact psychological stress and ultimately turnover intention (Manz, 1986; Smith, Valsecchi, Mueller, & Gabe, 2008l Mueller, Valsecchi, Smith, Gabe, & Elston 2008).

While job demands had no statistical relationship to absenteeism, these working conditions were positively and significantly related to turnover intentions. In relation to job demands, respondents felt that they

- have to work very hard (63.3%)
- are under pressure when they work (81.8%)
- feel obligated to work hard, regardless (64.7%)
- are dealing with significant changes regularly (56.7%)
- find the work emotionally stressful (97.3%)
- are working under constant time pressure (99.6%)

Emergency 911 call center managers and supervisors should be aware of these feelings related to job demands as measured in this study. Intentions to quit have been found to be positively associated to individual indicators of workload among vulnerable occupational groups such as nurses, police, teachers, physicians, and social workers, especially when job resources such as social and supervisory support have been deficient (Pomaki, DeLongis, Frey, Short, & Woehrle, 2010). While no causal relationships can be made as a result of the findings of this study, evolving an argument from continuous psychological and emotional stress to thoughts of leaving and quitting could be considered as a relative possibility in 911 call center work.

Job resources are powerful and have been shown across many industries in the chapter 2 literature review to consistently overcome even high job demands. If supervisors are not trained in supporting these call receiver and call dispatcher needs, it might be a worthwhile investment. When asked about supervisory support, respondents felt that

- they could only *sometimes* count on the supervisor when running into work difficulty (41.4%)
- they could only *sometimes* ask the supervisor for help (34.4%)
- they could only *sometimes* count on the supervisor to resolve employee conflicts (42%)
- they are only *sometimes* appreciated by the supervisor for the work they do (52%)

Additionally, respondents felt that they do not get enough information about the outcomes and results of work they do (35.5%) nor do they get supervisor feedback on how well they are doing (34.7%).

These percentage gaps in call receiver and call dispatcher perceptions about organizational support and communication at the supervisor level could be acted on. They represent room for very direct and measurable improvement in areas that have been demonstrated in a significant number of different occupational and call center settings to impact everything from employee engagement, job satisfaction, and commitment to turnover intention. Managers should share this information with their supervisors and design simple action plans to address these basic job resources that represent employee needs.

The literature and this study's findings point to a deliverable related to job resources: the potential for reduced turnover. If washout rates among newer or probationary recruits are high (a valid turnover measure), and these same employees are the right fit, focusing on social support and more frequent supervisory interaction and performance feedback might be worth exploring and measuring amongst that employee segment alone.

While there is a lack of clarity around unplanned absence, managers should further explore employee attitudes and opinions related to both mandatory and voluntary overtime in all forms. With reported sickness absence relatively low in this study, a look at overall absence figures and determining the reasons behind them might provide a clearer understanding of the scope, types, and the issues related to absenteeism.

The present study did not ask any specific questions related to the reasons for or drivers of absenteeism or attitudes regarding absenteeism and its effects in relation to overtime requirements. Even in high commitment jobs, the chapter 2 literature review uncovered findings that employees will grant themselves an unplanned mental day off in the form of sickness absence to compensate for a host of additive physical and mental factors. Alternative explanations could include reluctance to use vacation or other approved leave time to attend to personal or other routine matters if getting time off is difficult, shift scheduling is tight, or mandatory overtime is forced on peers when unplanned time off is needed or taken.

Recommendations for Further Study

Informal discussions with participant site managers suggested that absenteeism, and the havoc it wreaks on daily staffing and scheduling, remains a significant mystery in 911 call center operations. The findings in this study did little to shed light on the relationships that might exist between working conditions in the form of job demands and absenteeism. Even looking for correlations between absence measures and individual job demands indicators, there were no significant statistical relationships. However, the responses to statements related to job demands tell a different story. More study is needed to determine those variables that drive absenteeism in 911 call centers.

As noted, respondents in this survey, measured across three states and eleven independent locations, had a seemingly low absence rate when asked to equate sickness absence to the job over a 12-month period. However, when asked if their sickness absence was due to work, a significant percentage of respondents did affirm to varying degrees that their sickness absence was due to work. This discrepancy should be explored further. The qualitative opportunity is to find out what it means and what job-related factors employees equate their sickness absence with specifically. Academically, researchers may wish to continue to explore the perplexing space occupied by absenteeism and its relationship to quantifiable factors related to call center work.

Bakker, Demerouti, and Schaufeli (2003) did report that theirs as well as prior research had suggested that absence duration and long-term absence may be weak measures for the purposes of examining for direct relationships with job demands. One respondent to this study sent an unsolicited e-mail communication related to absenteeism,

suggesting that the research should have allowed for some open-ended response opportunities, especially concerning absenteeism. In particular, the respondent noted that frequent last minute shift holdover requirements (mandatory overtime) are a good measure of voluntary absenteeism.

The result of frequent mandatory overtime, especially last minute required overtime at the end of a shift, was relayed as having negative physical, mental, and psychological effects on the employee(s) who had to continually be held over to cover shift minimums. This could readily be extended into many psychological and demoralizing effects that have been uncovered and already validated in the literature if it is a common problem necessitated by regular last minute absenteeism (Bain, Taylor, & Dutton, 2005). This study clearly indicated that more qualitative exploration around absenteeism factors in 911 call centers would be useful and a logical precursor to further quantitative research.

Further qualitative research is also warranted to begin to determine those job demands that may both impact absenteeism and turnover intention specific to 911 call center employees. This conclusion is supported by the levels of strength in the individual responses to job demands measures in this study. The obvious questions are

- to what degree do these measures affect employees?
- what other factors or job demands issues weigh on their jobs on a daily basis?
- how do any other job demands factors affect them?

Finally, it is evident that opportunities for further study exist in the area of women's studies in the workplace given the majority female workforce in 911 call

centers. In that same vein, the literature review demonstrated an opportunity to also further explore the significance of theories such as Public Service Motivation (PSM) and the intrinsic social and psychological drivers that inspire people to serve as 911 call center workers.

Emergency 911 call centers are a fertile and unexplored area for gaining a greater understanding of the complexities of managing absenteeism and turnover. The potential value of further research can only benefit those responsible for keeping these operations running smoothly and ultimately help to enhance the quality of the call experience for the public and the emergency responders who rely on 911 call centers in life and property-saving circumstances.

Conclusions

The entire United States relies on a single three-digit phone number for all police, fire, and medical response. In over 6,100 separate locations across America, a 24/7 stand ready operation is poised at all times to handle every type of emergency and dispatch the appropriate response. Each call is a one-on-one interaction, where the call maker must completely rely on the call receiver to absorb, interpret, and respond *correctly* to the communicated need. By its very nature, and as established in the literature, this type of work is not for everyone. It is logical that stress, exhaustion, and burnout might drive behavioral responses such as work-related absenteeism and high rates of turnover. This information bears repeating at the end of this study. 911 call centers, and the people who sit vigilantly around the clock ready to respond to an unknown caller with an unknown

crisis, populate a unique social, psychological, and occupational space in the call center universe and society in general.

The purpose of this study was to attempt to open the research door a bit more on 911 call centers and their unique issues and needs. As a public mandate, there is little question that there is a social obligation to understand and support this critical operation. It can only help to ensure the future safety and welfare of the citizens of this country.

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Appendix A: Power Test

GPOWER 3.1 TEST
Sample Determination

[1] -- *Friday, March 18, 2011 -- 11:08:54*

t tests - Correlation: Point biserial model

Analysis:	A priori: Compute required sample size		
Input:	Tail(s)	=	Two
	Effect size |ρ|	=	0.3
	α err prob	=	0.05
	Power (1-β err prob)	=	0.8
Output:	Noncentrality parameter δ	=	2.8477869
	Critical t	=	1.9900634
	Df	=	80
	Total sample size	=	82
	Actual power	=	0.8033045

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Appendix B: Recruitment Correspondence

B1: 911 Call Center Management Solicitation

Malcolm Scott Sotebeer
malcolm.sotebeer@waldenu.edu

Ms. Jane Doe
Manager
Snohomish County Police
Staff and Auxiliary Service Center (SNOPAC)
1121E Everett Mall Way Ste. 200
Everett, WA 98208

Dear

Thank you for your interest in my doctoral research project-- *Assessing the Potential Relationship of Job Demands and Job Resources to Absenteeism and Turnover Intention in 911 Call Centers*-- and for considering offering the survey to your call receivers and dispatchers. As you are well aware, the issues of turnover and absenteeism are significant problems for all call center operations in all industries and are costly to your 911 call center. A lot of national and international research has been done around non-public safety call centers in the past decade. However, only a 2005 APCO study looked at 911 call centers nationally and these types of employee issues.

As mentioned, I am currently a doctoral student at Walden University, and for the past 12 years, I have worked in the King County Sheriff's Office (*insert if needed: in Washington State*) as the Sheriff's Chief of Staff. Among many issues surrounding public safety, I have come to learn of and understand some of the challenges and issues that 911 call center workers and managers face across America. As a student, I would like to learn more about working conditions and how they affect issues such as turnover in 911 emergency call centers.

When I am done with the study, I plan to share the information with all of you who are responsible for the call center operation you manage. My goal in this research is first, to complete a life-long personal goal of attaining the doctoral-level degree. My public motivation is to hope to encourage more academic interest and study of 911 call centers and the important work you do every day. When lives are on the line, the public calls and expects help without question. However, we simply have not paid enough attention to

911 call centers and the critical role you and your employees play in the protection of lives and property in this country.

What you need to know:

1. I am asking that ONLY call receivers, dispatchers, or those who do both functions, complete a 10-15 minute online survey.
2. This is 100% voluntary, confidential, and completely anonymous. I am using SurveyMonkey. I am paying for the professional level service—which allows me to block all electronic identifiers so that no e-mail address or other personal information can be taken or collected from the survey. http://www.surveymonkey.com/Monkey_Security.aspx
3. I have attached the survey draft for your review prior to asking employees to participate—and ask only that you do not share the survey with employees prior to the actual survey being conducted.
4. I have attached the survey recruitment flyer and electronic consent information that I will ask you to make available to qualified employees. Please review the document. I welcome any suggestions you might have for improving the message, disclosure information, and how this request is presented to your employees. The info-mail for employees also contains several links to SurveyMonkey so that anyone can read about privacy, data protection, and security.
5. The survey questions may not make sense to you. But they have been derived from a Dutch telecom study conducted in 2003 and other related research and primarily focus on employee perceptions of working conditions—which are measured as job demands and job resources. The questions and measurement have been validated in many different studies internationally.
6. I am doing a test at one 911 call center first—so that I can make any adjustments and to make sure everything is working in terms of the web-based survey. IF any changes are needed—I am required by Walden University to resubmit the changes for approval. You will be notified if any changes are made.
7. When the entire study is completed and approved by Walden Univesity (the final dissertation)—I will make it publicly available for you. Employees will have access to the final study as well.
8. There will be no mention of individual sites in the findings or related to the findings —only a listing in the appendix of all participating agencies. To protect your employees' privacy—I will only share with you the total survey scores and cumulative information ("10 men and 25 women ranging in ages from 25-54...., etc.) for your organization.
9. While I am currently a King County Sheriff's Office (KCSO) employee—this is a COMPLETELY INDEPENDENT research project and a requirement to complete my doctortal work. There is no affiliation, sanction, support, or any formal relationship between me as a student and the KCSO related to this research or its findings. I am funding my advanced degree 100% on my own. I have no supervisory role or authority or any other managerial connection or influence with

the King County 911 call center or any 911 call center, or any national organization such as APCO, NSA, or NENA.

What you need to do:

1. I have attached a community partner agreement form. If you choose to participate and offer the survey to your call receivers and dispatchers, I will ask that you sign the form electronically and return it to me. Walden University requires that I have these executed agreements BEFORE I am authorized to ask you to offer the survey to your employees or conduct *any* research.
2. I have attached a data use agreement form. If you have any readily available absenteeism and turnover data for the past year or two—it would be helpful for me to understand the average turnover and absenteeism rates for all participating call centers.
3. When I have Walden approval to proceed —I will contact you to ask you to present the participation request information to employees. You can do it by whatever means you feel most appropriate. However, I will ask that you give notice of the survey within a certain date range —so that employees in all participating 911 call centers will have one week to review the request and one more week to complete the survey.
4. When you distribute the information your employees will be directed to go to a secure, independent SurveyMonkey web site address to log in and complete the survey. I will determine exact dates when we get closer to approval.

Contacts and questions:

Please feel free to ask any questions you have now or even if you have questions later, you may contact me directly via phone (XXX.XXX-XXXX) or e-mail (malcolm.sotebeer@waldenu.edu). If you want to talk privately about participant rights or to verify my authorization to conduct this research, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is **1.800.925.3368, extension 1210**. If you would like to verify my employment in the King County SO, please call Kimberly Johnson, Sheriff Sue Rahr's Executive Assistant at **XXX.XXX.XXXX**.

I WILL FOLLOW THIS COMMUNICATION UP IN A COUPLE OF DAYS WITH A PHONE CALL TO ANSWER YOUR QUESTIONS. THANK YOU!

B2: Research Partner Letter of Cooperation
For
Malcolm Scott Sotebeer
Walden University

INSERT Organization Name and contact information OR copy and paste text to your own letterhead

{PLEASE INSERT DATE}

Dear Mr. Sotebeer

Based on our review of your research proposal, we give permission for you to conduct the study entitled ***Assessing the Potential Relationship of Job Demands and Job Resources to Absenteeism and Turnover Intention in 911 Call Centers*** within our organization. As part of this study, I authorize you to conduct an electronic survey specifically aimed at eliciting responses from call receivers, call dispatchers, or those individuals who function as both. Participation by qualified employees will be voluntary and at their own discretion. We reserve the right to withdraw from the study at any time if our circumstances change.

I confirm that I am authorized to approve research in this setting. I also agree to actively present your participant recruitment information to our qualified employees and all information that will allow them to voluntarily access the web site to complete the survey.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the research team without permission from the Walden University IRB.

Sincerely,

(PLEASE PROVIDE NAME AND YOUR CONTACT INFORMATION)

B3: Data Use Agreement

DATA USE AGREEMENT

This Data Use Agreement ("Agreement"), effective as of ("Effective Date"), is entered into by and between Malcolm Scott Sotebeer ("Data Recipient") and ("Data Provider"). The purpose of this Agreement is to provide Data Recipient with access to a Limited Data Set ("LDS") for use in research in accord with the HIPAA and FERPA Regulations.

1. Definitions. Unless otherwise specified in this Agreement, all capitalized terms used in this Agreement not otherwise defined have the meaning established for purposes of the "HIPAA Regulations" codified at Title 45 parts 160 through 164 of the United States Code of Federal Regulations, as amended from time to time.

2. Preparation of the LDS. **Data Provider** shall prepare and furnish to Data Recipient a LDS in accord with any applicable HIPAA or FERPA Regulations

3. Data Fields in the LDS. No direct identifiers such as names may be included in the Limited Data Set (LDS). In preparing the LDS, **Data Provider** shall include the **data fields specified as follows**, which are the minimum necessary to accomplish the research :

(1) **absenteeism** for call receivers and call dispatchers for the years 2009 and 2010 (Jan 1 to Dec 31 of each year), defined as total number of days of reported sickness absence for those specific employees;

(2) **turnover** for call receivers and turnover for call dispatchers for the years 2009 and 2010, defined as the total number of those specific employees who left the organization for any reason during the specific periods of 2009 and 2010;

(3) **total number** of call receivers and total number of call dispatchers who worked for the organization during the specific periods of 2009 and 2010.

Please provide the data as follows:

Absenteeism 2009	***Absenteeism 2010***
1. Call receivers ___	Call receivers___
2. Call dispatchers___	Call dispatchers___

Turnover 2009 ***Turnover 2010***

3.	Call receivers___	Call receivers___
4.	Call dispatchers___	Call dispatchers___
TOTAL CR/CD 2009		***TOTAL CR/CD 2010***
5.	Call receivers___	Call receivers___
6.	Call dispatchers___	Call dispatchers___

7. Responsibilities of Data Recipient. Data Recipient agrees to:

    a. Use or disclose the LDS only as permitted by this Agreement or as required by law;

    b. Use appropriate safeguards to prevent use or disclosure of the LDS other than as permitted by this Agreement or required by law;

    c. Report to Data Provider any use or disclosure of the LDS of which it becomes aware that is not permitted by this Agreement or required by law;

    d. Require any of its subcontractors or agents that receive or have access to the LDS to agree to the same restrictions and conditions on the use and/or disclosure of the LDS that apply to Data Recipient under this Agreement; and

    e. Not use the information in the LDS to identify or contact the individuals who are data subjects.

8. Permitted Uses and Disclosures of the LDS. Data Recipient may use and/or disclose the LDS for its Research activities only.

9. Term and Termination.

    a. Term. The term of this Agreement shall commence as of the Effective Date and shall continue for so long as Data Recipient retains the LDS, unless sooner terminated as set forth in this Agreement.

    b. Termination by Data Recipient. Data Recipient may terminate this agreement at any time by notifying the Data Provider and returning or destroying the LDS.

c. Termination by Data Provider. Data Provider may terminate this agreement at any time by providing thirty (30) days prior written notice to Data Recipient.

d. For Breach. Data Provider shall provide written notice to Data Recipient within ten (10) days of any determination that Data Recipient has breached a material term of this Agreement. Data Provider shall afford Data Recipient an opportunity to cure said alleged material breach upon mutually agreeable terms. Failure to agree on mutually agreeable terms for cure within thirty (30) days shall be grounds for the immediate termination of this Agreement by Data Provider.

e. Effect of Termination. Sections 1, 4, 5, 6(e) and 7 of this Agreement shall survive any termination of this Agreement under subsections c or d.

10. Miscellaneous.

a. Change in Law. The parties agree to negotiate in good faith to amend this Agreement to comport with changes in federal law that materially alter either or both parties' obligations under this Agreement. Provided however, that if the parties are unable to agree to mutually acceptable amendment(s) by the compliance date of the change in applicable law or regulations, either Party may terminate this Agreement as provided in section 6.

b. Construction of Terms. The terms of this Agreement shall be construed to give effect to applicable federal interpretative guidance regarding the HIPAA Regulations.

c. No Third Party Beneficiaries. Nothing in this Agreement shall confer upon any person other than the parties and their respective successors or assigns, any rights, remedies, obligations, or liabilities whatsoever.

d. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

e. Headings. The headings and other captions in this Agreement are for convenience and reference only and shall not be used in interpreting, construing or enforcing any of the provisions of this Agreement.

IN WITNESS WHEREOF, each of the undersigned has caused this Agreement to be duly executed in its name and on its behalf.

By completing the electronic signature, I am agreeing to the terms described above.

Name of Organization

Date of consent

Authorized Written or Electronic* Signature

Researcher's Written or Electronic* Signature Malcolm Scott Sotebeer

Electronic signatures are regulated by the Uniform Electronic Transactions Act. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically.

Please return the executed form to:

malcolm.sotebeer@waldenu.edu

Malcolm Scott Sotebeer

THANK YOU FOR YOUR HELP!

B4: Employee Flyer (print & electronic)

CALL RECEIVERS AND CALL DISPATCHERS

SURVEY PARTICIPANTS NEEDED

Assessing the Potential Relationship of Job Demands and Job Resources to Absenteeism and Turnover Intention in 911 Call Centers

by

Malcolm Scott Sotebeer

Walden University

You are invited to take part in a research study about working conditions in 911 call centers in America. You have been chosen for the study because you are either an emergency 911 center call receiver or call dispatcher, or you perform both functions.

My name is Malcolm Scott Sotebeer, and I am a doctoral student at Walden University. For the past 12 years, I have worked in the King County Sheriff's Office in Washington State as the Sheriff's Chief of Staff. Among many issues surrounding public safety, I have come to learn of and understand some of the challenges and issues that 911 call center workers face across America. As a student, I would like to learn more about working conditions and how they affect issues such as turnover in 911 emergency call centers. When I am done with the study, I plan to share the information with the people who are responsible for your work environment in the call center every day. You will also have access to the findings.

If you are interested in participating in the study, please go to (www.XXXXX.com) where you will find the survey, detailed information about protecting your identity, privacy and security, and complete instructions on how to complete it. The entire survey will take 10-15 minutes to complete.

Contacts and Questions:
You may ask any questions you have before taking the survey or even if you have questions later, you may contact me directly via phone (206.313.5633) or e-mail (malcolm.sotebeer@waldenu.edu). If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 1-800-925-3368, extension 1210.

THIS SURVEY IS COMPLETELY ANONYMOUS, PRIVATE, AND VOLUNTARY. NO ONE WILL KNOW THAT YOU PARTICIPATED OR WHAT YOUR ANSWERS ARE.

In order for your opinion to count, all surveys must be completed by (DATE)

If you are interested in sharing your opinions, I would be most grateful if you could go to the secure SurveyMonkey web site (www.XXXXX.com) and complete the survey right away.

Thank you!

Appendix C: Consent Form

PARTICIPANT CONSENT

Assessing the Potential Relationship of Job Demands and Job Resources to

Absenteeism and Turnover Intention in 911 Call Centers

by

Malcolm Scott Sotebeer

Walden University

You are invited to take part in a research study of the issues that surround working conditions in 911 call centers in America. You were chosen for the study because you are either a call center call receiver or call dispatcher, or you perform both functions. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

What is most important to understand is that your participation is 100% voluntary. Your electronic identification is removed, so your information is not shown in any way and your participation is then completely anonymous. Your organization or anyone who wishes to see the results will only be able to read the results of the entire report or for your entire work site. Even with all electronic identifiers removed, no individual responses will be available to anyone, including the researcher or Walden University.

This study is being conducted by a researcher named Malcolm Scott Sotebeer, a doctoral student at Walden University. For the past 12 years, Scott has worked in the King County Sheriff's Office in Washington State as the Sheriff's Chief of Staff. He has come to learn of and understand some of the challenges and issues that 911 call center workers face across America. As a student, he is seeking to learn more about working conditions and how they affect issues such as absenteeism and turnover in 911 emergency call centers – and plans to share that information with the people who are responsible for your work environment in the call center every day.

Background Information:
The purpose of this study is to gather your attitudes and opinions about your work environment and some of the working conditions that are known to contribute to or affect absenteeism and turnover in call centers.

Procedures:
If you agree to participate in this study, you will:

- Log into a secure web site with a Survey Money web link and take an anonymous survey.
- So we are able to know a little general information about different work sites in the survey, you will be asked for some basic information:
    - Your work location
    - Your age
    - Your position
    - Your gender
    - Your time on the job in your current position
    - The method in which you received training for the job
    - Length of time as a call receiver or dispatcher, or both
    - Hours you work per week
    - Voluntary overtime hours per week
    - Mandatory overtime hours per month

- You will then take the survey. There are 51 statements that ask you to provide your opinion along a scale that will either be a range from "never" to "always"; or "strongly disagree" to
  strongly agree."
- A couple of questions related to work attendance will require that you fill in some numbers, which might be your best guess. These figures will be combined to understand ranges and averages.
- It is estimated that the survey will take 10-15 minutes.
- When you hit the "finished" button, the survey data will go to SurveyMonkey's secure servers. No one but the researcher will have access to the raw data. It will be loaded onto a secure hard drive in a private office location in Seattle that no one else has access to.
- Statistical analysis tools will be used to interpret the data from ALL surveys so that we can understand the meaning of everyone's responses.
- When a final Walden University-approved research report is completed for this study, every participating 911 call center will be notified and they will be asked to notify all employees so that you know where to go to find the results—whether you completed the survey or not. The results will be available publicly when Walden approves the final document.

Voluntary Nature of the Study:
Your participation in this study is voluntary. This means that everyone will respect your decision of whether or not you want to be in the study. No one will treat you differently if you decide not to be in the study. No one will know whether you participated or not. If you decide to join the study now, you can still change your mind during the study. If you

feel stressed during the study you may stop at any time. You may skip any questions that you feel are too personal. Please feel free to contact the researcher directly if you have any questions or concerns, before, during, or after you have completed the survey. Contact information is at the end of this consent document.

Risks and Benefits of Being in the Study:
This survey is being conducted via the internet through SurveyMonkey. Please view the link to their website to learn more about the precautions they take to protect individual privacy, security, and participant anonymity (http://www.surveymonkey.com/Monkey_Security.aspx). All electronic means to capture electronic identification- such as IP addresses or e-mail addresses, have been blocked for the purposes of this survey. There are risks, however, as you will please note that SurveyMonkey cannot provide a 100% guarantee that something could not go wrong in terms of protecting the information that you will be providing. Please visit www.SurveyMonkey.com for more information. Every effort available has been made to ensure that your privacy has been protected.

Research in 911 call centers has been very limited compared to all call centers around the world. Your answers will contribute to a better understanding of the working environment and conditions in 911 call centers—and the opinions that call receivers and dispatchers have about the causes of absenteeism and turnover.

Compensation:
This is a student's doctoral research project. Please note that there is no compensation being offered for your voluntary participation.

Confidentiality:
Any information you provide will be kept anonymous. The researcher will not have access to your personal electronic identifying information as provided for by SurveyMonkey. There is no information being gathered that could identify you in any reports of the study. SurveyMonkey offers the following security information. To read more, please follow the links to their website.

SurveyMonkey provides the following publicly available security representation regarding data security. This information was downloaded from http://www.surveymonkey.com/Monkey_Security.aspx:

"SurveyMonkey utilizes some of the most advanced technology for Internet security commercially available today. When a user accesses secured areas of our site, Secure Sockets Layer (SSL) technology protects user information using both server authentication and data encryption, ensuring that user data is safe, secure, and available only to authorized persons.

SurveyMonkey requires users (RESEARCHER) to create a unique user name and password that must be entered each time a user logs on. SurveyMonkey issues a session "cookie" only to record encrypted authentication information for the duration of a specific session. The session cookie does not include either the username or password of the user.

In addition, SurveyMonkey is hosted in a secure data center environment that uses a firewall, intrusion detection systems, and other advanced technology to prevent interference or access from outside intruders. The data center is a highly protected environment with several levels of physical access security and 24-hour surveillance."

Additional information related to data collection and data security and integrity can be found at http://help.surveymonkey.com/app/answers/detail/a_id/250/session/L3NpZC8tTUVjbzFwaw%3D%3D

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via phone **(206.313.5633)** or e-mail (malcolm.sotebeer@waldenu.edu). If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 1-800-925-3368, extension 1210. Walden University's approval number for this study is **IRB will enter approval number here** and it expires on **IRB will enter expiration date.**

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By **clicking here (add SurveyMonkey hyperlink) to participate and enter the survey,** I am agreeing to the terms described above, understand the potential risks, and understand that I am participating voluntarily and anonymously.

NOTE: Electronic signatures are regulated by the Uniform Electronic Transactions Act. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker.

As described previously, **ALL** personal information is being intentionally **BLOCKED** from view or capture—and **cannot** be retrieved or viewed in any way to identify you.

Therefore, you are providing your electronic consent to take the survey **ONLY** by entering the site.

You may copy and print this form to keep.

Appendix D: Study Instrument

911 CALL CENTER SURVEY

Assessing the Potential Relationship of Job Demands and Job Resources to Absenteeism and Turnover Intention in 911 Call Centers

by

Malcolm Scott Sotebeer

Walden University

April 2011

PARTICIPANT CONSENT

Assessing the Potential Relationship of Job Demands and Job Resources to

Absenteeism and Turnover Intention in 911 Call Centers

by

Malcolm Scott Sotebeer

Walden University

You are invited to take part in a research study designed to explore working conditions in 911 call centers in America. You were chosen for the study because you are either a call center call receiver or call dispatcher, or you perform both functions. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

What is most important to understand is that your participation is 100% voluntary. Your electronic identification is removed, so your information is not shown in any way and is completely anonymous. Your organization or anyone who wishes to see the results will only be able to read the results of the entire report or for your entire work site. Even with all electronic identifiers removed, no individual responses will be available to anyone, including the researcher or Walden University.

This study is being conducted by a researcher named Malcolm Scott Sotebeer, a doctoral student at Walden University. For the past 12 years, Scott has worked in the King County Sheriff's Office in Washington State as the Sheriff's Chief of Staff. He has come to learn of and understand some of the challenges and issues that 911 call center workers face across America. As a student, he is seeking to learn more about working conditions and how they affect absenteeism and turnover in 911 emergency call centers – and plans to share that information with the people who are responsible for your work environment in the call center every day.

Background Information:
The purpose of this study is to gather your attitudes and opinions about your work environment and the types of things that are known to be related to absenteeism and turnover in call centers.

Procedures:
If you agree to participate in this study, you will:

- Log into a secure web site with a SurveyMonkey web link and take an anonymous survey.
- So we are able to know a little bit about your work situation, you will be asked for some basic information:
    - Your work location
    - Your age
    - Your position
    - Your gender
    - Your time on the job in your current position
    - The method in which you received training for the job
    - Length of time as a call receiver or dispatcher, or both
    - Hours you work per week
    - Voluntary overtime hours per week
    - Mandatory overtime hours per month

- You will then take the survey. There are 51 statements that ask you to provide your opinion along a scale that will either be a range from "always" to "never"; or "completely agree" to
  totally disagree"
- You will be asked a few very general questions at the end of the survey about your attendance and staying on the job where you now work.
- It is estimated that the survey will take 10-15 minutes.
- When you hit the "finished" button, the survey data will go to SurveyMonkey's secure servers. No one but the researcher will have access to the raw data. It will be loaded onto a secure hard drive in a private office location in Seattle that no one else has access to.
- Mathematical data analysis tools will be used to interpret the responses from ALL surveys so that a statistical analysis can be done to understand the meaning of the responses of everyone who participates.
- When a final Walden University-approved research report is completed for this study, every participating 911 call center will be notified and they will be asked to notify all employees so that you know where to go to find the results. You and your fellow employees will be able to look at the study whether you completed the survey or not. The results will also be available publicly when Walden approves the final document.

Voluntary Nature of the Study:
Your participation in this study is voluntary. This means that everyone will respect your decision of whether or not you want to be in the study. No one will treat you differently if you decide not to be in the study. No one will know whether you participated or not. If you decide to join the study now, you can still change your mind during the study. If you

feel stressed during the study you may stop at any time. You may skip any questions that you feel are too personal. Please feel free to contact the researcher directly if you have any questions or concerns, before, during, or after you have completed the survey. Contact information is at the end of this consent document.

Risks and Benefits of Being in the Study:
This survey is being conducted via the internet through SurveyMonkey. Please view the link to their website to learn more about the precautions they take to protect individual privacy, security, and participant anonymity (www.surveymonkey.com). All electronic means to capture electronic identification- such as IP addresses or e-mail addresses, have been blocked for the purposes of this survey. There are risks, however, as you will please note that SurveyMonkey cannot provide a 100% guarantee that something could not go wrong in terms of protecting the information that you will be providing (http://www.surveymonkey.com/Monkey_Security.aspx). Every effort has been made through the tools provided by SurveyMonkey to ensure that your privacy will be protected.

Research in 911 call centers has been very limited compared to all call centers around the world. Your answers will contribute to having a better understanding of the working environment and conditions in 911 call centers. Your attitudes and opinions as call receivers and dispatchers will hopefully inspire more research into 911 call centers in America and a greater understanding of the working conditions that you deal with every day..

Compensation:
This is a student's doctoral research project. Please note that there is no compensation being offered for your voluntary participation.

Confidentiality:
Any information you provide will be kept anonymous. The researcher will not have access to your personal electronic identifying information as provided for by SurveyMonkey. There is no information being gathered that could identify you in any reports of the study. SurveyMonkey offers the following security information. To read more about security and privacy, please follow the links to the SurveyMonkey website.

SurveyMonkey provides the following publicly available security representation regarding data security. This information was downloaded from

http://www.surveymonkey.com/Monkey_Security.aspx:

SurveyMonkey utilizes some of the most advanced technology for Internet security commercially available today. When a user accesses secured areas of our site, Secure Sockets Layer (SSL) technology protects user information using both server

authentication and data encryption, ensuring that user data is safe, secure, and available only to authorized persons.

SurveyMonkey requires users (RESEARCHER) to create a unique user name and password that must be entered each time a user logs on. SurveyMonkey issues a session "cookie" only to record encrypted authentication information for the duration of a specific session. The session cookie does not include either the username or password of the user.

In addition, SurveyMonkey is hosted in a secure data center environment that uses a firewall, intrusion detection systems, and other advanced technology to prevent interference or access from outside intruders. The data center is a highly protected environment with several levels of physical access security and 24-hour surveillance.

Additional information related to data collection and data security and integrity can be found at

http://help.surveymonkey.com/app/answers/detail/a_id/250/session/L3NpZC8tTUVjbzFwaw%3D%3D

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via phone (XXX.XXX.XXXX) or e-mail (malcolm.sotebeer@waldenu.edu). If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 1-800-925-3368, extension 1210. Walden University's approval number for this study is **IRB will enter approval number here** and it expires on **IRB will enter expiration date.**

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By **clicking here to participate and enter the survey (this will be a SurveyMonkey link),** I am agreeing to the terms described above, understand the potential risks, and understand that I am participating voluntarily and anonymously.

NOTE: Electronic signatures are regulated by the Uniform Electronic Transactions Act. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker.

As described previously, **ALL** personal information is being intentionally **BLOCKED** from view or capture—and **cannot** be retrieved or viewed in any way to identify you. Therefore, you are providing your electronic consent to take the survey **ONLY** by entering the site.

You may copy and print this form to keep.

Survey Background

This questionnaire has been compiled in consultation with people from Walden University and researchers from various universities. These individuals have provided guidance and expertise. They have experience with research and the topics of working conditions and the factors that drive issues such as absenteeism and turnover in many industries around the world, including non-911 call centers. The purpose of the questionnaire is to gain insight into the working conditions and environment the way you see it within your own 911 call center.

Some considerations before you begin:

• This questionnaire is about your situation at work and thus has an individual character. It's about your own experiences and opinions and not those of others.

• The information you provide is strictly confidential. Only the researcher will receive your responses so please feel free to be completely open and honest in selecting your responses.

• For the success of the research, it is very important that you fill in all questions. Even if you have doubts about the answer, do not think too long about the questions! Your first reaction is generally the best.

• Completing the entire questionnaire takes approximately 10-15 minutes.

Thank you for your help!

GENERAL INFORMATION

This first section is to gather very basic and general information about your job.

1. What is your work location? (911 center name) _____

2. What is your position __ call receiver __ call dispatcher
__ I do both

3. Type of training for this job: __ I went to a school to learn this job
__ I trained on the job after I was hired

4. How many years have you worked as a call receiver or dispatcher? ___ years ___ months

5. How long have you worked in your current position with this organization? ___ years ___ months

6. What is your age? ____ years

7. What is your gender? ___ Female ___ Male

8. How many hours do you work per week? _____

9. About how many <u>voluntary overtime</u> hours do you work per week? _____

10. About how many <u>mandatory overtime</u> hours do you work on average every month? _____

Thank you! Now let's get started!

YOUR WORKLOAD

The following statements relate to your work experience and how you feel about the amount of work you have in your current position. Choose the answer for each statement that best describes your feelings about your situation. Please choose your answer from the following list.

1 strongly disagree
2 disagree
3 neither disagree or agree
4 agree
5 strongly agree

1. I have too much work to do

strongly disagree				**strongly agree**
1	2	3	4	5

2. I have to work very hard at my job

strongly disagree				**strongly agree**
1	2	3	4	5

3. I am under pressure when I work

strongly disagree				**strongly agree**
1	2	3	4	5

4. I wish I felt less involved in my work

strongly disagree				**strongly agree**
1	2	3	4	5

5. I have problems with the work pressure

strongly disagree				**strongly agree**
1	2	3	4	5

6. I feel obligated to work hard, even though I do not always find it pleasant

strongly disagree				**strongly agree**
1	2	3	4	5

YOUR TASKS AT WORK

The following statements relate to your work experience and how you feel about changes in your tasks at work. Tasks are those things you do every day to complete your job. Choose the answer for each statement that best describes your feelings about your situation. Please choose your answer from the following list.

1 never
2 sometimes
3 not sure
4 often
5 always

1. There are significant changes that have been taking place in the tasks I do everyday

never				**always**
1	2	3	4	5

2. I find it difficult to adapt to changes in the tasks that I have to do

never				**always**
1	2	3	4	5

3. Changes in tasks that I do cause me problems

never				**always**
1	2	3	4	5

4. Changes in the tasks that I do have negative consequences for me personally

never				**always**
1	2	3	4	5

5. Any changes in tasks have been clearly explained and introduced to me

never				**always**
1	2	3	4	5

EMOTIONAL STRAIN

The following statements relate to your work experience and how you feel about the emotional strain in your job. Choose the answer for each statement that best describes your feelings about your situation. Please choose your answer from the following list.

1 never
2 sometimes
3 not sure
4 often
5 always

1. My job is emotionally stressful

never				**always**
1	2	3	4	5

2. I continue to work even when I have things that are affecting me personally

never				**always**
1	2	3	4	5

3. If always come through in emotionally charged situations

never				**always**
1	2	3	4	5

4. My work requires that I constantly pay attention

never				**always**
1	2	3	4	5

5. I have to work under time pressure

never				**always**
1	2	3	4	5

6. My work is very stressful mentally

never				**always**
1	2	3	4	5

COMPUTER AND TECHNOLOGY PROBLEMS

The following statements relate to your work experience and how you feel about computer and technology problems related to your job. Choose the answer for each statement that best describes your feelings about your situation. Please choose your answer from the following list.

1 never
2 sometimes
3 not sure
4 often
5 always

1. During work, I have to deal with malfunctioning equipment

never				**always**
1	2	3	4	5

2. During work, I have computer problems

never				**always**
1	2	3	4	5

RELATIONSHIPS WITH COWORKERS

The following statements relate to your work experience and how you feel about the your relationships with your coworkers. Choose the answer for each statement that best describes your feelings about your situation. Please choose your answer from the following list.

1 strongly disagree
2 disagree

3 neither disagree or agree
4 agree
5 strongly agree

1. If necessary, I can ask my coworkers for help

strongly disagree				**strongly agree**
1	2	3	4	5

2. I can count on my coworkers when I run into problems or difficulties in my work

strongly disagree				**strongly agree**
1	2	3	4	5

3. I get along well with my coworkers

strongly disagree				**strongly agree**
1	2	3	4	5

4. My coworkers are friendly towards me

strongly disagree				**strongly agree**
1	2	3	4	5

5. My work is appreciated by my coworkers

strongly disagree				**strongly agree**
1	2	3	4	5

6. I sometimes have conflicts with my coworkers

strongly disagree				**strongly agree**
1	2	3	4	5

SUPPORT AND COACHING FROM SUPERVISORS
The following statements relate to your work experience and how you feel about the support you get from your supervisors. Choose the answer for each statement that best describes your feelings about your situation. Please choose your answer from the following list.

1 never
2 sometimes
3 not sure
4 often
5 always

1. I can count on my supervisor when I run into difficulty in my work

never				**always**
1	2	3	4	5

2. If necessary I can ask my supervisor for help

never				**always**
1	2	3	4	5

3. I can count on my supervisor to resolve conflicts between coworkers

never				**always**
1	2	3	4	5

4. I feel appreciated by my supervisor in the work that I do

never				**always**
1	2	3	4	5

5. My supervisor is friendly towards me

never				**always**
1	2	3	4	5

6. There is a good atmosphere between me and my supervisor

never				**always**
1	2	3	4	5

7. I have conflicts with my supervisor

never				**always**
1	2	3	4	5

JOB FEEDBACK
The following statements relate to your work experience and how you feel about the feedback you get on your work and performance. Choose the answer for each statement

that best describes your feelings about your situation. Please choose your answer from the following list.

1 strongly disagree
2 disagree
3 neither disagree or agree
4 agree
5 strongly agree

1. My job gives me opportunities to find out how well I am doing

strongly disagree				**strongly agree**
1	2	3	4	5

2. I get enough information about the purpose of my work

strongly disagree				**strongly agree**
1	2	3	4	5

3. I get enough information about the results and outcome of my work

strongly disagree				**strongly agree**
1	2	3	4	5

4. My supervisor gives me feedback on how well I am doing

strongly disagree				**strongly agree**
1	2	3	4	5

5. My coworkers give me feedback on how well I am doing

strongly disagree				**strongly agree**
1	2	3	4	5

6. I know how well I am doing directly from the work that I do

strongly disagree				**strongly agree**
1	2	3	4	5

7. The work that I do gives me the opportunity to check on how well I am doing my job

strongly disagree				**strongly agree**
1	2	3	4	5

TIME MANAGEMENT

The following statements relate to your work experience and how you feel about the control you have over your time at work. Choose the answer for each statement that best describes your feelings about your situation. Please choose your answer from the following list.

1 strongly disagree
2 disagree
3 neither disagree or agree
4 agree
5 strongly agree

1. I have the freedom I need to do my work

strongly disagree				**strongly agree**
1	2	3	4	5

2. During my shift, there are sufficient opportunities for short breaks

strongly disagree				**strongly agree**
1	2	3	4	5

3. My working hours and breaks are well organized

strongly disagree				**strongly agree**
1	2	3	4	5

4. I am able to decide how much time I need to spend on specific activates

strongly disagree				**strongly agree**
1	2	3	4	5

ATTENDANCE AND ABSENCE
For the next section, please provide a number for each question regarding work attendance and absence from work. For the last two statements, please choose the answer that best fits.

1. In the past 12 months, how many DAYS have you missed work because of work-related illness? **_____ day(s)**

2. If you missed days because you were sick, about how many TIMES would you say that you missed work in the last 12 months due to work-related illness? (example- maybe you missed a total of 8 days, indicated above, but it happened over 3 different times that you were sick. Put the number of times you recall here.) **_____ times**

For the next question, please choose your answer from the following list.

1 never
2 sometimes
3 not sure
4 often
5 always

3. My sickness absence has been due to work

never				**always**
1	2	3	4	5

For the next question, please choose "yes" or "no" for your answer.

4. I was absent from work due to work-related illness one or more times in the past 12 months for a period of 14 days or more.

o **1 – yes** o **2 – No**

If YES, then:

If you were out for more than 14 days in a row due to work-related illness, how many total days do you recall being absent from work for any such longer periods? (example- you missed 22 days all at one time, or maybe you missed a total of 45 days at 14 and 31 days each time, but on two different occasions. Please provide the total days you missed work due to work-related illness for periods of 14 days or longer). _____ **days**

CHANGING JOBS

The following statements relate to your work experience and how you feel about the possibility of changing jobs. Choose the answer for each statement that best describes your feelings about your situation. Please choose your answer from the following list.

1 never
2 sometimes
3 not sure
4 often
5 always

1. I sometimes think about changing my job

never				**always**
1	2	3	4	5

2. I sometimes think about looking for work outside of this organization

never				**always**
1	2	3	4	5

Please respond to the final two statements by using one of the following responses. Choose the answer for each statement that best describes your feelings about your situation.

1 strongly disagree
2 disagree
3 neither disagree or agree
4 agree
5 strongly agree

3. Next year, I plan to change jobs

strongly disagree				**strongly agree**
1	2	3	4	5

4. Next year, I plan to look for a job outside of this organization

strongly disagree				**strongly agree**
1	2	3	4	5

You have finished! Thank you for completing the survey!

Appendix E: Permission

E1: Dr. Schaufeli

RE: research

Date : Fri, Dec 03, 2010 05:57 AM CST
From : **"Schaufeli, W. (Wilmar)"**
To : Malcolm Sotebeer <malcolm.sotebeer@waldenu.edu>

Attachment : Vragenlijst_PWC_2006.Ingevoerd.2.doc

Dear mr. Sotebeer,

Please find enclosed a (long) questionnaire that I've used in a study in a consultancy firm. This instrument is almost similar to the one that I've used in the Telecom study (except that in the attached questionnaire the headings of each subscale are included). Arnold Bakker was the principal researcher of the call-center study, so I've no questionnaire.

With kind regards,
Wilmar Schaufeli

Dr. Schaufeli's consent rules from the website http://www.schaufeli.com

Notice for potential users of the UWES and the DUWAS

- You are welcomed to use both tests provided that you agree to the following two conditions:

1. The use is for non-commercial educational or research purposes only. This means that no one is charging anyone a fee.

2. You agree to share some of your data, detailed below, with the authors. We will add these data to our international database and use them only for the purpose of further validating the UWES (e.g., updating norms, assessing cross-national equivalence).

- Data to be shared:
  For each sample, the raw test-scores, age, gender, and (if available) occupation.
  Please adhere to the original answering format and sequential order of the items.
  For each sample a brief narrative description of its size, occupation(s) covered, language, and country.

- Please send data to: w.schaufeli@uu.nl. Preferably the raw data file should be in SPSS or EXCEL format.
- **By continuing to the TEST FORMS you agree with the above statement.**

E2: Dr. van Veldhoven

Subject : **RE: research request**

Date : Fri, Apr 08, 2011 03:04 AM CDT

From : **"M.J.P.M. van Veldhoven"**

To : Malcolm Sotebeer <malcolm.sotebeer@waldenu.edu>

Dear Malcolm Sotebeer, dear Scott,

Thanks for your request.
Permission granted to use a limited number of scales from the VBBA/QEEW in your study.
As to validity information: the quest for validity is obviously never finished. As more and more research is being done, the validity of a scale gets clearer. For validity information on the VBBA/QEEW, apart from the manual, I'd especially recommend the attached papers.
I hope this is helpful. If there are any more specific queries as to the info in the Dutch manual, please let me know. I'm sorry that there is no English version of that document.

Good luck with your research.

Best wishes,
Marc van Veldhoven.

Van: Malcolm Sotebeer [malcolm.sotebeer@waldenu.edu]
Verzonden: donderdag 7 april 2011 22:16
Aan: M.J.P.M. van Veldhoven
Onderwerp: research request

Dr van Veldhoven

I am a doctoral student at Walden University in the states. I have been working in public and private sectors for over 30 years-- and am pursuing the degree as a personal growth initiative as an older student. My degree path is Management & Decision Science and I am specializing in Leadership and Organizational Change. My dissertation title is Assessing the Relationship of Job Demands and Job Resources to Absenteeism and Turnover in 911 Call Centers

I am planning to replicate a study in 911 emergency call centers here in the states for my dissertation. It is derived from the Dutch telecom call center study Bakker, A., Demerouti, E., & Schaufeli, W. (2003). Dual processes at work in a call center: An application of the job

demands-resources model. European Journal of Work and Organizational Psychology, 12(4), 393-417. doi:10.1080/13594320344000165

In my contact with Dr Bakker, he no longer has the survey instrument that was used for the study. However, Dr. Schaufeli has shared his Move for your Life questionnaire, which has several of the areas of study I need. I have also found your questionnaire, "Experience and Assessment of Work", which covers
several areas as noted in the Baller et al. study. I would like to use several of the questions related to changes in tasks and emotional demands. I would like to have your permission to do so, and would also like to know how I might obtain the internal validity information for that particular questionnaire. Google translator is helpful to some degree in translating the Dutch manual -- but it also requires some interpretation.

I would be most grateful for your consideration in this effort and thank you in advance!

Regards,

Scott Sotebeer

>>>
>>>>Dear Scott Sotebeer,

I have been searching for the questionnaire, but cannot find the English version unfortunately. The study was conducted in 2001 or so - this means that I have switched computers at least five times.

Sorry for this. Note however, that our JD-R model should work independent of the specific questionnaires used. This means that you can replicate our call center study using slightly different measures.

Good luck!

Arnold
PS: see www.arnoldbakker.com for several articles about the JD-R model, and research instruments.

Curriculum Vitae

Malcolm Scott Sotebeer

EDUCATION

Doctor of Philosophy:

Applied Management & Decision Sciences (11)

Leadership & Organizational Change specialization — Walden University

Master of Business Administration (07)	Walden University
Bachelor of General Studies- Advertising/Marketing (83)	Indiana University
Associate of Business Administration (82)	Indiana University
Associate of General Studies-Economics (81)	Indiana University
Undergraduate study (73-77)	University of Hawaii

PROFESSIONAL KNOWLEDGE AND SKILLS

Strong leadership in executive-level team integration, decision-making, and collaboration. Excel at moving from problem interpretation and analysis to problem solving strategy, planning, and execution. Demonstrated leader in internal and external relationship management with creative, entrepreneurial vision, and solutions-based skills in critical business change environments.

- Strategic planning & implementation
- Leadership development

- Business transformation & cultural change
- Executive team building and coaching
- Sustainable downsizing and reprogramming
- Internal/external organizational relations

PROFESSIONAL EXPERIENCE

Chief of Staff

2000 – Present **King County Sheriff's Office** Seattle, WA

Confidential executive advisor to the separately elected Sheriff and executive management team in the 12th largest U.S. county. Responsibilities include strategic counsel and management oversight for:

- Design, advocacy and implementation of organizational, operational, management, and cultural change initiatives
- Development of public policy, including comprehensive communications strategies required to achieve sustainable organizational objectives
- Private sector, local, state, and federal relations
- Cross-cultural communications and community relations
- Design and implementation of strategic initiatives, including 10-year operational master plan
- Organizational problem solving, strategic planning, administration, and management
- Senior management team counsel and coaching

Co-President

1991 - 2000 **The Emerald Group, Ltd./AsiaNet** Seattle, WA

Co-founder of a public relations, management, and marketing consulting firm primarily focusing on ethnic communities. AsiaNet division client list included the Asia Society-New York, Feld Entertainment-Ringling Bros., Walt Disney's World on Ice, Nordstrom, Britannica, Anheuser-Busch, National Korean American Grocers Assn, Korean Grocers of Washington, Taipei Consulate/Seattle, The Bon Marche Stores and Coopers & Lybrand-China Bureau. Non-Asian and broadcast clients included ESPN's Extreme Games, US Open Badminton Championships, RTE/Ireland's St. Patrick's Day, and the International Gravity Sports Association.

EARLY CAREER

Managing Director, Marketing	CelticVision-- Los Angeles, Dublin
Advertising Executive	The Juhl Agency-- South Bend, IN
Retail Advertising Sales	The South Bend Tribune-- South Bend, IN

COMMUNITY & PROFESSIONAL ENGAGEMENT

As Friends of Athletic Fields president, organized, managed and lead a statewide grassroots advocacy group that has generated over $120 million for youth and adult sports, recreation, and athletic fields and facilities in Washington. Highlights include successful passage of schools levy that included over $40 million to build high school and community athletic complexes. As S.A.F.E. non-profit board member, actively helped to re-start public middle school athletics programs and developed a college readiness evaluation and planning program for high school student athletes.

Scott is also a published songwriter and owner of Small Horn Music (BMI). His catalog includes original songs recorded by Meatloaf and Brian May. He has negotiated both book and television film deals related to the story of the Green River killer, including selecting and editing for the book's ghost writer for now congress member and former sheriff Dave Reichert.

Board positions have included Washington Dollars for Scholars, the Rainier Institute (public policy), US Vice President's SafeCities Coalition, Seattle Athletic Facilities & Education Committee (S.A.F.E.), International Gravity Sports Racing Association, Project Safe Neighborhoods Funding Committee and the Washington State and Governor's Meth Initiative.

Professional affiliations have included the Bank Marketing Association, American Marketing Association, National Cable Television Association, the National Association of Music Merchants, Broadcast Music, Inc., and the National Sheriff's Association.