TESTING THE JOB DEMANDS-RESOURCES MODEL IN A WORKPLACE HEALTH PROMOTION CONTEXT

By

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(Under the Direction of David M. DeJoy)

ABSTRACT

There is a strong body of literature regarding workplace health promotion; however, two distinct priorities for research have been identified in the areas of 1) studying the impact of work on the physical and mental health of employees and 2) creating new conceptualizations about the nature of work (Wilson, 2008). Using these research priorities as a framework, this cross-sectional study examined the impact of job design and organizational characteristics, as defined by the Job Demands-Resources (JD-R) model, on employee well-being and productivity. Full-time, day shift employees from a municipal government setting were included in this study in order to analyze various job demands (workload, work-life balance, and emotional demands) and job resources (autonomy, social support, and leader-member exchange) and their effect on employee productivity (as defined by presenteeism and professional isolation), subjective well-being, and workplace health promotion program participation. Hypotheses were designed in accordance with relationships specified within the JD-R model and were examined to determine whether the chosen job demands and job resources

were appropriate indicators. Although not all of the chosen job demands and job resources worked together regarding each outcome, the results revealed that some job demands and some job resources operated in the direction expected: job demands negatively affected employee productivity and workplace health promotion program participation, and job resources positively affected employee productivity, subjective well-being, and workplace health promotion program participation. These results 1) aligned with previous findings within the literature, 2) satisfied JD-R model assumptions, and 3) extended the JD-R literature to include outcomes related to workplace health promotion in an effort to better inform and guide future program design. Further, this study contributed to the literature by fulfilling research gaps for both the JD-R model and workplace health promotion by 1) studying the impact of work (as defined by broadly applicable combinations of job demands and job resources) on the physical and mental health of employees and 2) creating new conceptualizations about the nature of work through a JD-R model extension to workplace health promotion.

INDEX WORDS: job demands, job resources, occupational stress, work engagement, presenteeism, professional isolation, workplace health promotion, employee well-being, employee productivity

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DEDICATION

I would like to dedicate this dissertation to my husband and unborn child for the shoulder to cry on, the ear to listen to my rants, the hugs that kept me going, and the little kicks of motivation.

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INTRODUCTION

1.1 Workplace Health Promotion (WHP)

Workplace health promotion programs and activities continue to expand both in the United States and abroad. In fact, the World Health Organization has recently identified the workplace as a priority setting for health promotion in the 21st century (WHO, 2005). The United States alone has an estimated 155 million employees, and those who work full-time typically spend at least 30% of their day on the job (Bureau of Labor Statistics, 2012). Employees at work represent a very significant audience for public health programs and activities. Since many employers provide health insurance for their employees, employers have a significant financial stake in encouraging a healthier and more productive workforce.

The workplace itself continues to change in response to a number of interrelated trends and factors, including advances in information technology, the globalization of business markets and economies, and fundamental changes in the way in which work is structured and organized. In addition, many advanced economies are faced with increasingly older and more diverse workforces. Each of these trends has potentially significant implications for employee health, and that is where workplace health promotion (WHP) can help.

1.2 Trends in WHP

Traditional WHP programs typically focus on a) improving personal health behaviors and b) making positive lifestyle changes/choices (Engbers, 2008). However, an emerging trend within WHP is to broaden the scope of prevention by including job design and organizational characteristics in program planning (Way & MacNeil, 2006). Job design factors refer to the particular combination of demands and resources that emphasize employees' individual perceptions of their immediate work tasks, such as workload and autonomy (ten Brummelhuis, Bakker, Prins, & van der Heijden, 2011). Organizational characteristics emphasize the features that motivate employees to work harder and perform better without detrimental health effects, such as the social and interpersonal aspects of the workplace (Way & MacNeil, 2006). The inclusion of these factors has been more prominent in northern and western Europe than in the United States (Sparks, Faragher, & Cooper, 2001).

However, there is growing recognition that it is virtually impossible to separate out the contributions of work and non-work factors on employee health and well-being (Danna & Griffin, 1999). WHP research efforts should begin to assess the impact of various job design and organizational factors and their impact on worker health and productivity in an effort to broaden the scope of workplace health promotion and focus more attention on the need to maximize the utilization of human capital. The National Institute for Occupational Safety and Health (NIOSH), which is part of the U.S. Centers for Disease Control and Prevention (CDC) has recognized this with the recent initiation of their Total

Worker Health initiative (Sorensen & Barbeau, 2004). Similarly, the World Health Organization (WHO) has developed a Healthy Workplaces model (WHO, 2010). Both of these initiatives focus on the importance of work and non-work factors and the integration of health protection and health promotion programs and activities.

The present research will take a step in this direction and use the Job Demands-Resources Model (Llorens, Bakker, Schaufeli, & Salanova, 2006) to examine the contribution of selected job design and organizational characteristics to employee productivity, subjective well-being, and WHP program participation.

1.3 The Job Demands-Resources Model

The Job Demands-Resources model (JD-R) was developed to explain how two general categories of job design and organizational characteristics might impair employee health: a) job demands and b) job resources. The first category, job demands, includes the physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological effort. Consequently, job demands are associated with certain physiological and/or psychological costs (Demerouti, Bakker, & Schaufeli, 2003). The second category, job resources, include physical, psychological, social, or organizational aspects of the job that are a) functional in achieving work goals, b) reduce job demands and the associated physiological and psychological costs, or c) stimulate personal growth and development. Resources may be located at various levels: organization, interpersonal relations, work composition, and at the job level (Demerouti et al., 2003).

Within the JD-R model, job demands and job resources initiate two relatively independent processes that explain and predict well-being at work (Demerouti & Bakker, 2007; Schaufeli & Bakker, 2004). The health impairment process, which is also known as the reduced energy process or strain process, represents the imbalance between high job demands and low job resources that may lead to occupational stress and in turn, to negative health and organizational outcomes (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). The motivational process suggests that low job resources prevent the ability to cope effectively with high job demands and leads to reduced motivation that results in mental withdrawal or disengagement over time (Demerouti et al., 2001). The JD-R model proposes that job demands are the main initiators of the health impairment process that leads to negative organizational outcomes, while job resources are the most crucial predictors of engagement and consequently, of positive outcomes (Lewig, Xanthopoulou, Bakker, Dollard, & Metzer, 2007).

The JD-R is essentially a balance model that posits that the relative balance of demands and resources at work can be either beneficial or harmful. As such, it may provide useful diagnostic information for improving working conditions and employee well-being and productivity. The basic JD-R model is depicted in Figure 1.1. This model has been shown to be applicable to a variety of job types (Euwema & Bakker, 2009). Although there is some agreement as to the key dimensions comprising job demands (e.g., workload) and job resources (e.g., social support or autonomy), the JD-R model allows for flexibility in the

selection of job demands and job resources dependent upon the specific job setting or work situation being studied.

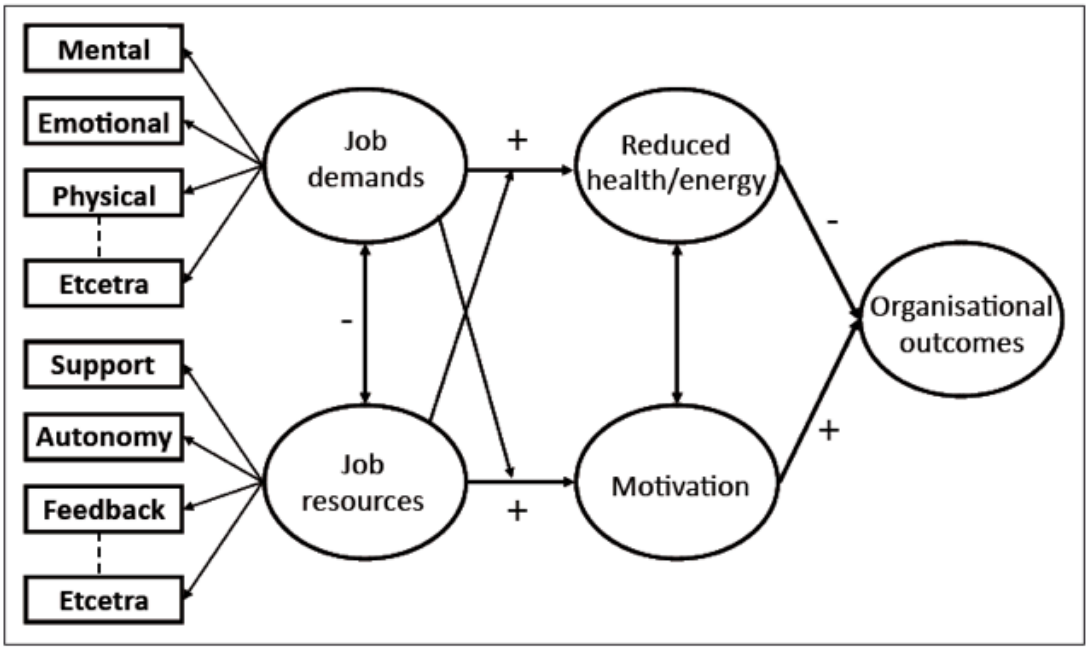


Figure 1.1: Traditional Job-Demands Resources Model

(Demerouti & Bakker, 2011)

Much of the existing JD-R literature has focused on outcomes such as burnout, work engagement, and job performance (Schaufeli & Bakker, 2004; Schaufeli, Bakker, & Van Rhenen, 2009). Findings are consistent in showing that the JD-R can predict these outcomes in a variety of different job settings and occupations (Demerouti & Bakker, 2007). The JD-R has also been used to

predict withdrawal related outcomes, such as absence duration and frequency (Demerouti & Bakker, 2007).

The present research seeks to expand the outcomes examined with the JD-R to those that are relevant to WHP. More specifically, to what extent do job design and organizational characteristics (as configured by the JD-R model) also explain outcomes such as employee productivity in the form of presenteeism and professional isolation, subjective well-being, and WHP program participation. If job design and organizational characteristics are found to have an impact on these outcomes, then a convincing argument can be made for including job design and organizational characteristics in the structure of WHP program initiatives.

Employee Productivity

This study will explore presenteeism and professional isolation as new indicators of employee productivity within the context of the JD-R.

Presenteeism. Presenteeism is a phenomenon in which employees work while ill but function at a reduced level due to illness (Dew, Keefe, & Small, 2005). It has been investigated as both a predictor of worker productivity (Burton et al., 2005) and an outcome of stress (Schultz & Edington, 2007). Presenteeism has been studied extensively within workplace health promotion, particularly studies focusing on financial outcomes and return on investment (Schultz, Chen, & Edington, 2009). Research indicates that presenteeism is linked to stress-related physical and mental illness in the workplace (Wang, Simon, & Kessler, 2003). Poor health has been proposed as a key prerequisite for presenteeism as

well as work and personal circumstances (Yamamoto, Loerbroks, & Terris, 2009), but it seems reasonable to argue that job design and organizational characteristics may also contribute to presenteeism.

*Professional isolation***.** Professional isolation is a state of mind or belief that one is out of touch with others in the workplace (Cooper & Kurland, 2002). This study posits that professional isolation may result from an imbalance of job demands and job resources, which can impair employee well-being and productivity. It further suggests that job design and organizational characteristics such as job demands and job resources are contributors to the presence or absence of professional isolation. While the JD-R model has not specifically been studied with professional isolation as an outcome, it has been used to study detachment and connectedness (Lewig et al., 2007). The imbalance between job demands and job resources threatens connectedness and the ensuing detachment contributes to the feeling of isolation in the workplace separating employees from one another (van Riet & Bakker, 2008). Employees who find themselves in work situations that no longer foster security or embrace interaction may adopt an attitude of isolation as a necessary defense mechanism against stressful work conditions that are unstable and unsympathetic (Golden, Veiga, & Dino, 2008).

Similar to presenteeism, occupational stress has been found to be positively associated with professional isolation (Dussault, Deaudelin, Royer, & Loiselle, 1999). Isolation has been demonstrated to be a symptom of stress in a

variety of research areas, such as bullying, post-traumatic stress disorder (PTSD), and caregiver role clarity (Golden et al., 2008).

Occupational stress is quickly becoming the single greatest cause of occupational disease (Noblet & Lamontagne, 2006). Along with the JD-R model, there are several models that strive to explain the association of occupational stress to a range of debilitating health outcomes (Noblet & Lamontagne, 2006). Each model focuses on a balance between individual and workplace variables, that, if found in disproportion, can activate various coping mechanisms and stress reactions (Wilhelm, Kovess, Rios-Seidel, & Finch, 2004), such as presenteeism and professional isolation among others.

Subjective Well-Being

An assessment of subjective well-being through the JD-R lens will provide insight to the relationship between job demands/resources and subjective well-being. Subjective well-being has been a frequent outcome measure in psychology and organizational behavior research for the last few decades (Oishi & Diener, 2003). It is a broad concept that encompasses the physical, mental, and emotional domains of health, yet it has been overlooked with regards to JD-R research. The health outcomes that have been investigated are limited to measures of anxiety, depression, and headaches (Lewig et al., 2007; Schaufeli & Bakker, 2004); therefore, a comprehensive assessment with physical and mental health indicators is required to ascertain the health risk that is associated with job demands and job resources in the workplace.

WHP Program Participation

Employers need to see a return on investment in terms of lowered health insurance claims and increased productivity in order to justify continued funding of WHP. Program participation is essential to the sustainability of WHP, yet participation levels in WHP are typically below 50% (Robroek, Van Lenthe, Van Empelen, & Burdorf, 2009). Based upon a management perspective, decreased workplace health promotion participation is linked to employee lack of interest and ineffective recruitment methods (Linnan et al., 2008; Stein, Shakour, & Zuidema, 2000), but it is quite possible that work-related factors may also contribute to poor participation either by making it logistically more difficult to participate or because employees are simply less interested due to stress or other factors. This study suggests that there are organizational elements that are the true barriers to participation. The study's JD-R application will fill a literature gap that lends effectively to workplace health promotion.

1.4 Research Questions and Hypotheses

The purpose of this study is to provide an additional method of viewing the impact of job design and organizational characteristics on employee well-being and productivity by examining specific job demands and job resources that employees are exposed to one-third of their day. In order to do this, a cross-sectional methodology has been designed with specific research questions guiding the study.

Research Question #1: To what extent do job demands impact employee productivity, subjective well-being, and WHP participation?

- H_1: In line with the health-impairment process, we predict that occupational stress mediates the relationship of job demands and employee productivity.
- H_2: In line with the health-impairment process, we predict that occupational stress mediates the relationship of job demands and subjective well-being.
- H_3: In line with the health-impairment process, we predict that occupational stress mediates the relationship of job demands and WHP participation.

Research Question #2: To what extent do job resources impact employee productivity, subjective well-being, and WHP participation?

- H_1: In line with the motivation process, we predict that work engagement mediates the relationship of job resources and employee productivity.
- H_2: In line with the motivation process, we predict that work engagement mediates the relationship of job resources and subjective well-being.
- H_3: In line with the motivation process, we predict that work engagement mediates the relationship of job resources and WHP participation.

Research Question #3: To what extent do job resources buffer the effect of occupational stress from job demands?

- H_1: In line with the crosslink between job resources and stress, we predict that job resources moderates the relationship of job demands and occupational stress.

CHAPTER 2:

LITERATURE REVIEW

This chapter will present the literature and theoretical underpinnings that together provide the perspective through which the research problem will be viewed and the choices about the research will be made.

2.1 Background

Schabracq and Cooper (2000) state that the combination of new technology, globalized economies, and new organizational products and processes has caused unprecedented changes and increasing stakes in the workplace. The majority of these changes mean that employees are under growing pressure to compete, adapt, and learn new skills in order to meet the demands of their work. These shifts in the nature of organizations may result in increasingly stressful working environments, which have been implicated as a risk factor for many physical and psychological problems, including increased risks of heart disease, gastrointestinal problems, anxiety, depression, burnout, absence, fatigue, accidents, substance misuse, musculoskeletal disorders, work-family conflict, and many other problems (Cox & Griffiths, 1995).

The organizations rely on workforces that are productive and committed to the tasks they are responsible to complete. Productivity and commitment are at risk when high demands give way to maladaptive stress reactions that can compromise employee health if left unchecked (Dunnagan, Peterson, & Haynes,

2001). In such situations, organizations may suffer from decreased productivity, quality, and profit, and employees incur greater health care costs, increased sick leave, and lowered performance (Wilson, 2008).

Workplace Health Promotion

Workplaces are an important setting for reaching a large percentage of the adult population with health promotion programs. The workplace presents a useful setting for introducing and maintaining health promotion programs to a concentrated group of employees who share a common purpose and culture (Della et al., 2010). Because good worker health has the potential to enhance company profitability and help achieve other organizational goals, the objectives of health promotion can be aligned with the organization's mission. Organizational polices and social norms can help guide certain behaviors and discourage others, and financial or other incentives can be introduced to encourage participation in programs (McGillivray, 2002).

Traditionally, WHP programs have worked to enhance the health and personal well-being of employees for the express purpose of improving job satisfaction, reducing work-related stress, and enhancing individual health, thereby reducing risk-factors and lowering health care costs (Noblet & Lamontagne, 2006). This traditional approach tends not to focus on job design or organizational factors, which have been found to have health implications (DeJoy & Wilson, 2003).

WHP has evolved in terms of the services that are offered; however, it has not yet evolved to the point where the full complexity of the workplace is

considered. Even with the evidence of improved productivity with improved employee health, there remains a lack of awareness of the connection between job design and organizational factors and employee well-being from both the employer and employee viewpoint (Linnan, Sorensen, Colditz, Klar, & Emmons, 2001). This presents opportunity for WHP growth potential to embrace the organizational context beyond its traditional focus, and the review of the literature will provide further insight for a WHP expansion to program planning.

2.2 Theoretical Framework

The Job Demands-Resources model assumes that every occupation has its own risk factors associated with adverse organizational and employee well-being outcomes. According to the JD-R, these risk factors can be classified into two broad categories: 1) job demands and 2) job resources (Demerouti & Bakker, 2007). Job demands are unavoidable in the workplace, but excessive demands will place employees at risk if they lack the 'tools' to cope with and manage those demands. The 'tools' in question are job resources, and they are intended to maintain the delicate balance with demands in an effort to defend against damaging stress reactions.

Dual Process

A second assumption of the model is that a dual process takes place within the job demands and job resources balancing act. These dual processes have been examined through a variety of methods: cross-links, interaction effects, and mediation effects (Lewig et al., 2007). The first process is termed the 'health impairment' process and occurs when poorly designed jobs or chronic job

demands exhaust and deplete employee mental and physical capacities through the persistent stimulation of the stress response (Hakanen, Bakker, Demerouti, & Xanthopoulou, 2007).

The stress associated with a job related factor such as workload (Barrett, 2009) is thought to influence health by 1) evoking behavioral coping responses that over time can be detrimental to health and 2) triggering physiological responses through activation of the sympathetic nervous system and the HPA (hypothalamic-pituitary-adrenal) axis. Prolonged or repeated stimulation of these systems is thought to place individuals at risk for the development of a range of physical and psychological diseases/disorders (Cohen, 2004). Stress within the JD-R model is conceived as a failure to cope with job demands (de Jonge, Le Blanc, Peeters, & Noordam, 2008).

The second process is motivational in nature and assumes that job resources have the potential to promote positive outcomes in the workplace, such as job satisfaction and high work performance (Demerouti & Bakker, 2007). Job resources may play either an intrinsic motivational role because they foster growth and development in the workplace, or an extrinsic motivational role because they are instrumental in achieving work goals. Resources that are inherently intrinsic fulfill basic human needs, such as autonomy and social support, while extrinsic resources promote the achievement of work goals such as performance feedback and leader-member exchange (LMX) (Demerouti & Bakker, 2007).

Buffering Effect of Job Resources

There is also evidence that job resources may buffer the impact of job demands on adverse work outcomes (Demerouti, Bakker, & Verbeke, 2004). According to Demerouti et al. (2005), the impact of job demands on certain outcomes can be reduced when employees possess many job resources, including social support, feedback, and coaching. It is generally considered that the social aspect of job resources provide the psychological mechanism needed to cope with and buffer the effect of stress associated with job demands (Meijman & Mulder, 1998).

Job demands are not inherently negative, but they can become so when job resources are low (Hakanen, 2005). Job resources are necessary to deal with job demands. Employers that provide several resources are also providing an ideal situation in which employees are willing to confidently dedicate efforts and abilities to confront and cope with job demands (Mauno, 2007).

Competing Theories

The competing theories of interest are coincidently the theories from which the JD-R was developed: 1) Job Demands-Control model (JDC) and 2) Effort-Reward Imbalance (ERI) model. The JDC model is a two-dimensional model of job strain in which job control and job demands are interactive predictors of strain (Karasek & Theorell, 1990). The ERI model is an occupational stress model that describes a negative trade-off between a high amount of occupational effort and low rewards in terms of money, esteem, job security and career advancement.

Each model describes an imbalance that stimulates a sustained stress response, which can lead to negative health outcomes (Kouvonen et al., 2006).

Perhaps the main deficiency of the JDC is that it is too simplistic and fails to capture the complexity of work environments as suggested by Demerouti et al. (2005). Job control is not the only resource available for coping with job demands. Also, the overall restrictiveness primarily emphasizes the quantitative aspect of job demands in the form of work pressure and not the qualitative aspect of emotional demands (Demerouti et al., 2003).

The criticism of ERI is similar to that of the JDC. The ERI model conceptualizes efforts and rewards in a specific way, and the testing of a variety of efforts and rewards is argued to be more valuable (Xanthopoulou, Bakker, Dollard, et al., 2007). Due to these limitations, Bakker (2003) suggests that there is a need for a model that acknowledges the many job demands and job resources associated with the diversity of today's workforce and workplace settings. In this context, the JD-R model is considered a promising alternative framework that can be applied to a broad spectrum of occupational settings irrespective of the particular demands and resources involved. The JDC and ERI depict the workplace balance in useful and unique ways that have informed research for years; however, the JD-R capitalizes on their weaknesses to provide insight to the balance that is more useful in today's changing society, workforce, and workplace as seen in the following literature review of the JD-R model.

2.3 Review of JD-R Literature

Model Constructs

A variety of different job demands and job resources have been examined using the JD-R. Table 2.1 summarizes the types of demands and resources that have been examined within the context of the JD-R. In earlier research endeavors, the selection of demands and resources was conservative and reminiscent of other models, such as physical demands, workload, and job control. However, as the model gained recognition and support, researchers became bolder in the exploration of demands and resources like leader-member exchange, emotional demands, and reorganization.

*Job Demands***.** By far the most widely used job demand is workload. It has been used to capture features such as time pressure, difficulty of work, and amount of work. Workload refers to the quantitative aspect of job demands whereas emotional demands signify the qualitative piece (de Jonge et al., 2008). Emotional dissonance and work-life balance inclusions have also sought to satisfy the qualitative aspect of job demands in response to the growing female presence in the workforce (Demerouti, Bakker, & Verbeke, 2004; Hakanen, 2005). Technological demands have surfaced as employees strive to adapt to technological advances (Demerouti et al., 2003).

*Job Resources***.** Job control was long touted as the primary job resource available to employees. However, the amount of resources that have been studied serves to further validate the merits of the JD-R model. A number of job resources have been identified in the workplace, and it stands to reason that

more will be uncovered or at the very least improved upon as the workplace and workforce continues to grow and change. Social support is often viewed as the buffering resource against high job demands (Demerouti & Bakker, 2007). This is true among several balance models. Variations of social support have been applied to the JD-R model that seek to qualify all interpersonal relationships that serve as resources in the workplace, such as supervisor support, LMX, and colleague support (Hu, Schaufeli, & Taris, 2011). Resources related to job tasks and participation have also been identified as vehicles for motivation: feedback, decision-making, and professional advancement/development. These resources have been particularly helpful with job security and morale during economic hardships (Xanthopoulou, Bakker, Dollard, et al., 2007).

*Dual Process***.** The JD-R model proposes that job demands and job resources play a role in the development of burnout and engagement. Burnout within the JD-R model has been studied as both an outcome and proxy for the health impairment process. Burnout is traditionally characterized as a syndrome of exhaustion, cynicism, and lack of efficacy. It is reflected in negative well-being, such as anxiety, depression, and work-related stress (Nahrgang, Morgeson, & Hofmann, 2011). The burnout model referenced in Chapter 1 depicts the health impairment process and has served as the starting point for subsequent research into cross-links, interaction effects, and reversed relationships. The motivational process is usually represented by work engagement, but connectedness and involvement have also been utilized with success (Demerouti et al., 2003; Lewig et al., 2007). Engagement is defined as a positive, fulfilling, work-related state of

mind characterized by vigor, dedication, and absorption. It represents the extent of involvement, participation, and communication in the workplace (Crawford, LePine, & Rich, 2010).

Table 2.1: Typical JD-R Model Variables

Job Demands	Job Resources	Dual Process	
		Health Impairment Process	Motivation Process
• Workload/Overload • Emotional Demands • Physical Demands • Reorganization • Work-Life Conflict/Work-Home Interference • Work/Time Pressure • Emotional Dissonance • Computer Problems • Pupil Misbehavior • Cognitive Demands • Harassment	• Job Control • Autonomy • Supervisor Support • Opportunities for Professional Development/ Advancement • Participation in Decision-Making • Feedback • Social Support • Supervisory Coaching • LMX • Procedural Fairness • Skill Utilization	• Burnout • Cynicism • Exhaustion	• Engagement • Connectedness • Involvement

*Model Outcomes***.** Much of the prior work using the JD-R model has focused on a subset of traditional organizational outcomes, including organizational commitment, turnover intention, and sickness absence (Hu et al., 2011; Schaufeli et al., 2009). While this study will maintain some of the established features from the literature, such as types of demands/resources and work engagement, it will also incorporate innovative variables for the health impairment process and organizational outcomes within a workplace health promotion context.

Model Refinements

One of the most significant workplace characteristics studied is job demands while job resources have not received as much attention (Way & MacNeil, 2006). The Conservation of Resources (COR) theory, developed by Hobfoll (1989), has been used with the JD-R model to help clarify the role of job resources in the workplace. It is an ideal pairing because COR also assumes a moderating/buffering role of resources in the relationship between threats/demands and negative outcomes. The theory posits that resources can generate other resources and that individuals will seek to protect themselves from a loss of resources while striving to obtain and maintain (job) resources, especially when a situation is considered stressful (Hobfoll, 2001). To reduce their level of stress, employees will try to limit losses. Those with a greater pool of resources are less susceptible to resource loss, which may result in positive outcomes like better coping and well-being (Hobfoll, 2002).

Hobfoll describes four types of resources: objects, conditions, personal characteristics, and energies (Hobfoll, 2001). It is proposed that individuals invest their personal resources in order to deal with threatening conditions and prevent themselves from negative outcomes (Grandey & Cropanzano, 1999). Therefore, directions for future research with COR and JD-R is to incorporate personal resources alongside job resources in an effort to assess their interaction with job demands and organizational outcomes (Demerouti & Bakker, 2011).

Model Applications

The JD-R trend has not yet made its way into mainstream workplace research in the United States, but its use in Europe and Asia is well established. There is not a typical population within the workforce in which the JD-R model is exclusive; however, the healthcare industry has been a favorite as well as call centers and educational samples. The majority of studies have identified and studied specific sections of the workforce, which may have implications for the workforce as a whole.

Model Opportunities & Challenges

Due to the dynamic nature of the model constructs, sophisticated analytic techniques can be used to examine the relationships among the variables, such as structural equation modeling, MANOVA, OLS regression, and cross-validation. Hierarchical modeling has also been explored as researchers have introduced multilevel constructs into the JD-R model (Hakanen, 2005). Consistency has been found among the techniques, which in turn validates the results.

Although the demands and resources found within the workplace are vast, the types used with the JD-R model have a solid base of research and support. However, a limitation found within the choosing of the types of demands and resources occurs when researchers restrict the selection to one or two of each (Demerouti, Bakker, & Verbeke, 2004). Restricting the JD-R model in this way generates similar criticism found with competing theories. Additionally, a number of studies contained samples from specific occupational settings, such as dentists, teachers, and home care organizations. The sample specificity limits the generalizations that can be made to the workforce at large.

Model Evidence

While there are some contradictions among the results, which have been explained away by limitations of specific occupation/setting and insignificant interaction effects, by in large JD-R findings are consistent on the following points:

1. *High job demands and low job resources are the strongest/direct predictors of burnout and indirectly of absence duration.*
2. *Dual process constructs are negatively related and mediate the relationship between job demands and job resources and organizational outcomes.*

Several studies emphasize the direct and indirect relationships between model variables. Direct relationships refer to 1) the predictive influence of job demands upon the burnout construct of the health impairment process and 2) the predictive influence of job resources upon the engagement construct of the

motivational process. The indirect relationships refer to the mediating effect of the dual process constructs between job demands/job resources and organizational outcomes, such as absence duration/frequency, turnover, and commitment (Demerouti et al., 2003; Schaufeli et al., 2009).

Most studies providing evidence for the dual processes suggested by the JD-R model are based on structural equation analyses with self-report data that consistently validate its use. Cross-link investigations report that burnout and engagement are negatively related as well as job demands and job resources (Schaufeli & Bakker, 2004).

3. *Job resources are useful in coping and are predictors of motivational outcomes such as task enjoyment and organizational commitment.*
4. *Job resources buffer the negative relationship between job demands and organizational outcomes.*

Job demands are primarily and positively related to exhaustion, and job resources are primarily and negatively related to disengagement from work (Hakanen, 2005; Schaufeli et al., 2003). Studies with an interaction hypothesis between job demands and job resources have found that job demands such as workload, emotional demands, physical demands, and work-home interference did not result in high levels of burnout if employees experienced autonomy, received feedback, had social support, or had a high-quality relationship with their supervisor. In cases where the levels of job resources were high, the effect of job demands on the core dimensions of burnout was significantly reduced (Demerouti et al., 2005; ten Brummelhuis et al., 2011).

The current literature reflects considerable success in validating the assumptions of the JD-R model; however, there is more work to be done. Combinations of demands and resources need to be explored within diverse populations evaluating different outcomes that consider more than the traditional work and organizational outcomes, such as those related to WHP and employee well-being. While the possibilities seem endless, each study that examines the JD-R will provide an incremental step in the right direction.

2.4 Study Profile

The proposed research will build upon the current literature attendant to JD-R and seeks to extend it to WHP by focusing on outcomes that are important within this domain, such as employee productivity, subjective well-being, and WHP participation.

Current JD-R applications are directed to traditional organizational outcomes such as commitment, turnover, and absenteeism. Because absenteeism captures only a portion of the impact of employee health on productivity (Johns, 2010), an extension to presenteeism is logically sound and potentially important. Presenteeism is thought to cause much more aggregate productivity loss than absenteeism (Schultz & Edington, 2007), and its presence in WHP program planning could be a distinct source of increased employee health (Johns, 2010).

Additionally, there is likely a close linkage between presenteeism and burnout in that burnout may give rise to presenteeism due to inadequate recovery (Meijman & Mulder, 1998). Employees may get trapped in a “loss spiral”

(Hobfoll, Freedy, Lane, & Geller, 1990) as symptoms of burnout, in turn, lead to an accumulation of job demands and less energy to cope with these demands. This will again result in more presenteeism, and so on. Therefore, the focus on burnout in previous JD-R research provides a strong basis for the examination of presenteeism in the workplace.

The inclusion of professional isolation as an outcome in the present study is admittedly more exploratory within the realm of research on workplace health. However, it is known that professional isolation is related to stress and can decrease employee performance thereby affecting employer production (Dussault et al., 1999). It is also important to understand that professional isolation is not about physical distance or separation; it is about the lack of professional networks and interpersonal contact in the workplace.

JD-R research has indirectly pursued elements of professional isolation in the areas of connectedness and detachment/disengagement. These elements underscore the significance of belonging that may contribute to professional isolation if lacking in terms of connectedness or neglected in terms of detachment/disengagement (Lewig et al., 2007). Therefore, it can be reasoned that the JD-R is an appropriate model for the examination of professional isolation in the workplace.

The JD-R literature has considered health outcomes in terms of psychological problems: depression, strain, happiness and psychosomatic health complaints: headaches, cardiovascular problems, and stomachaches. It was found that burnout fully mediates the relationship between job demands and

health problems (Lewig et al., 2007; Schaufeli & Bakker, 2004). The measures used to assess health problems were the 12-item General Health Questionnaire and a 13-item questionnaire used by the Dutch Central Bureau of Statistics (Dirken, Koopmans, & Lamers, 2000; Goldberg et al., 1997).

Overall subjective well-being has not been a focal outcome for the JD-R model. While health status has been partially examined, it has not been studied on both the physical and mental dimensions of health. Therefore, this study will utilize the SF-12 to capture the subjective well-being of a sample as it relates to the JD-R model. The SF-12 serves as a generic measure that does not target a specific age group or disease and will complement a theoretical framework that also lacks specificity in its design (Ware, Kosinski, & Keller, 1996).

Finally, WHP program participation has yet to be addressed within the scope of the JD-R model. Previous research has offered recommendations for WHP program planning based upon JD-R results; however, WHP participation itself has not been assessed. If high job demands are contributing to employee burnout and presenteeism, the likelihood of participation in WHP is minimal unless extra efforts are made to identify and realign demands and resources in the workplace.

The existing literature has informed the study design, including potential analytic pitfalls, sampling considerations, and selection of model constructs. Areas for development have been found in the literature, such as integrating new outcomes, demands/resources, and analytic techniques, which this study intends to accomplish. Weaknesses surrounding generalization will be avoided through

the identification and use of a population that contains a broad spectrum of work situations and job descriptions.

The literature has reinforced alignment between the theoretical framework and study design through consistent findings of several cross-sectional studies. The JD-R model provides a structured and flexible framework in which the research questions can be answered and the hypotheses tested. Through the lens of the JD-R model, an examination of job demands and job resources will 1) reassess the impact on employee health outcomes and 2) inform WHP in a way that other balance models have been unsuccessful. This study will provide an approach for WHP to adopt in its mission to create healthier workplaces.

CHAPTER 3:

METHOD

This chapter describes the design and research methodology that was implemented to examine the contribution of job demands and job resources to employee productivity, subjective well-being, WHP program participation. The following sections specify the design, sample, data collection, questionnaire development, and data analysis plan.

3.1 Design

This study implemented a cross-sectional survey research design sampling a population of municipal government employees from the Athens-Clarke County Unified Government (ACC).

3.2 Participants & Procedures

Setting

ACC serves the citizens of Athens-Clarke County, a consolidated city–county in the northeastern part of Georgia. It comprises the former City of Athens proper and Clarke County.

ACC is charged with fulfilling directives from city officials such as road maintenance, public safety, and code enforcement. An organizational chart is available in Appendix A that depicts the order in which directives travel through the chain of command from the Mayor's Office. Stakeholders from these governing bodies, such as Human Resources (HR) representatives, the ACC

manager, and department heads, have been identified and included in this study's formulation and execution.

Housed within the Human Resources department is the ACC Wellness Program, which began in 2004 with a mission dedicated to enhancing the mind, body, and spirit of Athens-Clarke County employees and retirees through the main goals of 1) improving employee and retiree health and wellness, 2) reducing absenteeism and increasing productivity, and 3) managing health care costs (Athens-Clarke County, 2012). The ACC Wellness Program provided this study with an opportunity to obtain a representative sample of employees to ensure a high response rate through events that catered to all ACC employees. The schedule of these events is included in Appendix B.

Description of Participants

The ACC workforce includes over 50 different departments/divisions with a broad range of jobs. The departments with the most employees (150+) are Police, Fire, Public Utilities, Transportation and Public Works, and Leisure Services. The authorized strength of ACC is 1,570; however, due to a 10% turnover rate, there are approximately 1,500 full-time/benefits-eligible employees at any given time. The gender composition of the ACC workforce is 70% male and 30% female. However, which with an average age of 43 and average income of $43,000. The ethnicity distribution is as follows: 69% Caucasian; 28% African-American; .40% Asian-American; 1.98% Hispanic/Latino; .13% American Indian/Native American; .07% Native Hawaiian/Other Pacific Islander; .46% two

or more distinctions. ACC employee marital status is as follows: 28% Single; 62% Married; 9% Divorced; .73% Widowed (Athens-Clarke County, 2012).

The study was restricted to full-time employees who have held first-shift positions for one year or longer. First-shift refers to daytime hours that begin in the morning hours and end in the mid to late afternoon. Due to this restriction, the eligible male percentage of the ACC workforce (70%) was lowered for certain departments that contain a high number of male employees, specifically firefighters and second/third shift police. An age restriction of 18 years of age or older was applied. Females were oversampled due to the moderating effect that gender has on the health-effects of job strain (Gadinger et al., 2010). The oversampling effort offset a potential moderating effect within the study.

Sampling Strategy

Participation was voluntary and kept confidential with non-identifying surveys. Participants were recruited through on-site solicitation, email communication from the wellness program administrators, printed materials posted at every department, and word of mouth. Recruitment messages were designed to reach all eligible employees.

Sample Size

According to the current JD-R literature, an appropriate effect size to anticipate is 0.2 (Hakanen et al., 2007). The level of significance was set at $\alpha=0.05$ with a 95% confidence interval for one-tailed hypothesis testing of two independent variables (job demands and job resources). The minimum required sample size for a multiple regression study given these parameters is n=51 to

achieve power equal to 0.80 (Maxwell, 2000). Nevertheless, oversampling was a priority to offset the possibility of missing data due to the sensitive nature of some survey items and to confirm an adequate response rate. With a population of 1500 at a confidence level of 95% and an error rate of +/-5%, the appropriate sample size is 306; however, that only yields a response rate of 20%. Therefore, this study pursued a sample size of 900 to ensure a 60% response rate, which is typical of both workplace health promotion research and JD-R research (Cancelliere, Cassidy, Ammendolia, & Cote, 2011; Demerouti & Bakker, 2007).

3.3 Data Collection Procedure

Phase 1

Data was confidentially collected during two phases of scheduled events that allowed access to all ACC employees. The first phase was linked to open enrollment discussions that Human Resources (HR) representatives were required to have with every department. The discussions involved changes to health insurance plans that all employees had to be aware of regardless of their health insurance status.

The HR department communicated this requirement to all department heads and employees for several months prior to the scheduled meetings. Department heads delivered the directive and allowed employees to attend one of the sessions during their workday if necessary. The meetings were scheduled with convenience in mind to provide opportunity to all ACC employees despite their employment circumstances. The investigator was permitted to offer a scripted invitation following the scheduled meetings. The invitation script can be

found in Appendix C. After inviting employees to participate, the investigator distributed surveys and answered questions as needed.

Phase 2

The second phase consisted of scheduled department visits amongst all ACC facilities that were set up by the investigator to coordinate with routine staff meetings, safety meetings, etc. so as to not distract from workday obligations. The visits served the survey distribution effort as well as gave participants another avenue for survey completion.

The combination of the two phases extended reach to all eligible ACC employees and provided multiple opportunities for participation. To offset the risk of repeat participation, employees were pointedly asked if they had previously submitted a survey. The survey took approximately 15 minutes to complete. Participants were asked to complete the survey immediately upon receipt, but if time did not permit this, participants were permitted to complete and return the survey at their convenience through several mechanisms:

- Scheduled departmental visits by the investigator.
- Designated department lockbox: The investigator provided each department with a lockbox in which employees could place their surveys. Lockboxes were kept in a secure location that was accessible to departmental employees. Scheduled collection of the lockboxes was communicated to the department beforehand.

- Interdepartmental mail to HR with no return label: The wellness program provided the investigator with a mailbox in which surveys coming through interdepartmental mail were placed.
- In person delivery to the investigator's mailbox located at HR.

The investigator had exclusive access to lockboxes and mailboxes used for survey submission. The instrument was distributed in an envelope that participants sealed with their confidential responses enclosed. The envelope was conveniently addressed to the ACC wellness program with a UGA research designation. All HR staff were directed to receive incoming surveys and place them in the appropriate mailbox in the event the investigator was not present to do so.

Incentives

Incentives were provided to every participant who completed a survey. The incentive was a five-dollar gift card to a business that features healthy meal options (Subway restaurant). There was a delayed schedule for incentive disbursement to confirm survey participation. Participants were instructed to detach and retain the face sheet of the survey for both their personal records and for incentive collection at a later scheduled date. Face sheets were coded with the corresponding survey to give the investigator time to confirm participation. Incentive disbursement occurred at HR during a scheduled time period following data collection. Participants collected incentives with their retained face sheet. If a survey indicated no participation, the participant had another opportunity to participate or forfeit the incentive.

3.4 Measures

The instrument was comprised of validated scales that provided the necessary data for analysis. Many of the scales used were adopted from established questionnaires widely used in workplace research. A copy of the full survey instrument used in this study can be found in Appendix C. Table 3.1 presents source and descriptive information for each scale used in the survey in addition to each scale's reliability statistic obtained from the literature specific to scale development and assessment.

Independent Variables

*Job Demands***.** Job demands were represented by three measures: workload, emotional demands, and work-life balance. Workload describes the pace and amount of work to be done under time restrictions and pressure (Euwema & Bakker, 2009). Emotional demands represent the employee effort to manage personal emotions as well as the job-related situations that evoke an emotional response, such as tension and suppression (van Riet & Bakker, 2008). Lastly, work-life balance relies on the assumption that one's personal life and professional life intermingle and have a positive or negative effect on the other; hence, its selection for this study (Demerouti, Bakker, & Verbeke, 2004).

These aspects of job demands were chosen for their generalizability to most workplaces (Bakker, 2003; de Jonge et al., 2008; Demerouti, Bakker, & Verbeke, 2004). The employee population sampled consisted of a wide variety of different types of jobs, and these three measures were thought to be generalizable across the different job descriptions.

Workload and emotional demands were assessed using scales from the Questionnaire on the Experience and Evaluation of Work (QEEW). The QEEW measures psychosocial risk on over 30 occupational factors and is considered a benchmark instrument in JD-R research (Nabitz, Jansen, van der Voet, & van den Brink, 2009). It is based conceptually on Karasek's Job Content Questionnaire (Karasek et al., 1998) with the goal of improving psychometric quality (ten Brummelhuis et al., 2011). It has been tested frequently since its development in 1994, and the scales have been shown to be uni-dimensional, reliable, valid, and internally consistent, while only moderately intercorrelated (van Veldhoven et al., 2004).

Each construct of the QEEW was measured with a 4-point response scale ranging from 1 (never) to 4 (always). Example items are *"Do you feel you have too much work to do?"* (workload) and *"Are you confronted with things that affect you personally in your work?"* (emotional demands).

Valcour's (2007) scale was used to assess work-life balance. Items were designed to capture the multiple facets that add up to an overall assessment of satisfaction with work-family balance beyond what is available in the literature. Rothausen (1994) contributed an item to the scale regarding the balance between work and life performance. Each statement was measured with a 5-point response scale ranging from 1 (very dissatisfied) to 5 (very satisfied). *"The way you divide your time between work and personal or family time"* is an item example.

*Job Resources***.** Job resources was also represented by three measures: autonomy, social support, and leader-member exchange. Autonomy is an important job design feature that allows an employee to determine the pace, sequence, and methods to accomplish tasks (van Riet & Bakker, 2008). Social support is an interpersonal feature that refers to overall levels of helpful social interaction available on the job from both co-workers and supervisors (Shimazu, Shimazu, & Odahara, 2004). Social support has been shown to play an important role in the management of stress at work and serves as a buffer against possible adverse health affects of excessive psychological demands (Theorell, 1999). Leader-member exchange (LMX) is rooted in social-exchange theory whereby a supervisor has a unique relationship to each employee that is negotiated over time to be a significant predictor of numerous work attitudes (Ariani, 2012). Although these three types of resources were generalizable to most workplaces, the most compelling reason for selection was their consistency in the JD-R literature and their ability to span the levels of work, worker, and workplace (Euwema & Bakker, 2009; van Riet & Bakker, 2008).

Autonomy and social support were assessed using scales from the QEEW. Example items are *"Do you have freedom in carrying out your work activities?"* (autonomy) and *"If necessary, can you ask your co-workers for help?"* (social support).

LMX was measured by the LMX-7 Questionnaire (Graen, Novak, Sommerkamp, Sears, & Holmvall, 2010), which is considered the best measure of LMX (Volmer, Spurk, & Niessen, 2012). Meta-analytical evidence indicates

that the LMX-7 provides sound psychometric properties and high correlations with outcomes, compared to other available instruments (Zhong, Lam, & Chen, 2011). Each item was measured with a 5-point statement specific response scale, and the mean of the seven items was taken as the score for LMX. An example item is *"How well does your supervisor understand your job problems and needs?"*

Dual Process Indicators

Occupational Stress. The Perceived Stress Scale (PSS) developed by Cohen, Karmack, and Mermelstein (1983) was modified for the workplace (DeJoy, Wilson, Vandenberg, McGrath-Higgins, & Griffin-Blake, 2010) and used to assess occupational stress as one of the two processes that is activated within the JD-R model. The scale depicts the active interaction between worker and work/workplace. When the situation is appraised as demanding or insufficient resources are available to cope with the situation, the perceived interaction yields a stress response (Cohen et al., 1983). Question items were modified for the workplace setting and scored on a 5-point scale ranging from 1 (never) to 5 (very often). Items are based on a four-month recall, and an example is *"In the last month, how often have you felt nervous or stressed at work?"*

Work Engagement. The Utrecht Work Engagement Scale-9, a shortened version of the Work and Well-Being Survey, was used to assess the motivational process activated by the JD-R model. The scale represents the motivational process through evaluation of three dimensions of work engagement: vigor, dedication, and absorption (Schaufeli, Bakker, & Salanova, 2006). All items were

scored on a 7-point frequency rating scale ranging from 0 (never) to 6 (always). An example is *"I am enthusiastic about my job."*

Dependent Variables

*Employee Productivity***.** Each outcome variable was assessed using a validated measure from the current body of literature. The Health and Work Performance Questionnaire (HPQ) is a brief self-report questionnaire developed by the World Health Organization as part of its Global Burden of Disease Initiative, a program of research aimed at documenting the human capital costs of illness and the cost effectiveness of diverse health care interventions (Kessler, 2003). It is comprised of subscales that gather three types of information: 1) screening information about the prevalence and treatment of commonly occurring health problems, 2) information about three types of workplace consequences (sickness absence, presenteeism, and critical incidents), and 3) basic demographic information (Ustun, 2004). The presenteeism subscale was used for this study, and items were scored on a 5-point response scale ranging from 1 (none of the time) to 5 (all of the time). An example item is *"How often did you do no work at times when you were supposed to be working?"*

Professional isolation was assessed with a scale developed by Golden, Veiga and Dino (2008) that evaluated the extent of professional isolation experienced. It was successfully correlated with the well-established UCLA Loneliness Scale. The scale contains 7 items with a 5-point response scale ranging from 1 (none of the time) to 5 (all of the time). *"I miss face-to-face contact with coworkers"* is an example.

*Subjective Well-Being***.** The subjective well-being of participants was assessed with the SF-12 version 2, a shortened version of the SF-36 Health Survey. The SF-12 contains one to two items that measure each of the eight dimensions of the SF-36: physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional, and mental health. These concepts are widely used in heath surveys, are most affected by disease and treatment, and represent multiple operational indicators of health (e.g., distress and well-being). The items are based on a standard four-week recall and provide a psychometrically-based physical component summary (PCS) and mental component summary (MCS) score using norm-based scoring (Ware et al., 1996).

*WHP Program Participation***.** ACC employees have the option of enrolling into one or both of the offered wellness programs, Wellness Tier or Well Points, during new hire orientation or open enrollment. The Wellness Tier program requires two educational and two behavioral components (one each quarter) for enrollees to receive a health insurance premium reduction. The Well Points program requires the attainment of physical fitness and nutrition points over the course of a year. The reduced health insurance premium is then applied the following year. In order to determine the dose of WHP, participation will be assessed by categorizing participants into one of five classifications: non-participant/never participated; previously participated; current participation in Well Points program; current participation in Wellness Tier program; current participation in both wellness programs.

Table 3.1: Measures Table

Measure	Source	Alpha	Number of items	Rating Scale
Workload*	Questionnaire on the Experience and Evaluation of Work (QEEW) (van Veldhoven et al., 2004)	α=.89	11	4-point response scale ranging from 1 (never) to 4 (always)
Emotional Demands*		α=.85	6	
Autonomy**		α=.90	11	
Social Support**		α=.87	7	
Work-Life Balance**	Valcour (2007)	α=.93	5	5-point response scale ranging from 1 (very dissatisfied) to 5 (very satisfied)
Leader-Member Exchange**	LMX-7 (Graen, 2010)	α=.94	7	5-point statement specific response scale
Occupational Stress	Perceived Stress Scale (PSS) (DeJoy et al., 2010)	α=.88	6	5-point scale ranging from 1 (never) to 5 (very often)
Work Engagement	Utrecht Work Engagement Scale (UWES) (Schaufeli, 2006)	α=.92	9	7-point frequency rating scale ranging from 0 (never) to 6 (always)
Presenteeism***	Health Performance Questionnaire (HPQ) (Kessler, 2003)	α=.81	6	5-point response scale ranging from 1 (none of the time) to 5 (all of the time)
Professional Isolation***	Golden, Veiga, Dino (2008)	α=.89	7	5-point response scale ranging from 1 (none of the time) to 5 (all of the time)
Subjective Well-Being	SF-12 (Ware et al., 1996)	α=.89	12	Statement specific response scale

*Job Demands; **Job Resources; ***Employee Productivity

Demographics

Data concerning gender, race/ethnicity, age, income, education level, marital status, and occupational role and department (as established by ACC) was included in the survey to establish a descriptive profile of the sample based upon standard measures of demographic indices used by the United States Census Bureau.

3.5 Data Analysis

Research Model

The research model under study is illustrated in Figure 3.1. It includes all of the pathways associated with the stated hypotheses for this research as presented in Chapter 1 that were anticipated with the research design. Specific analytical procedures were applied to each relationship to measure the contribution of each variable to the corresponding research question and hypothesis.

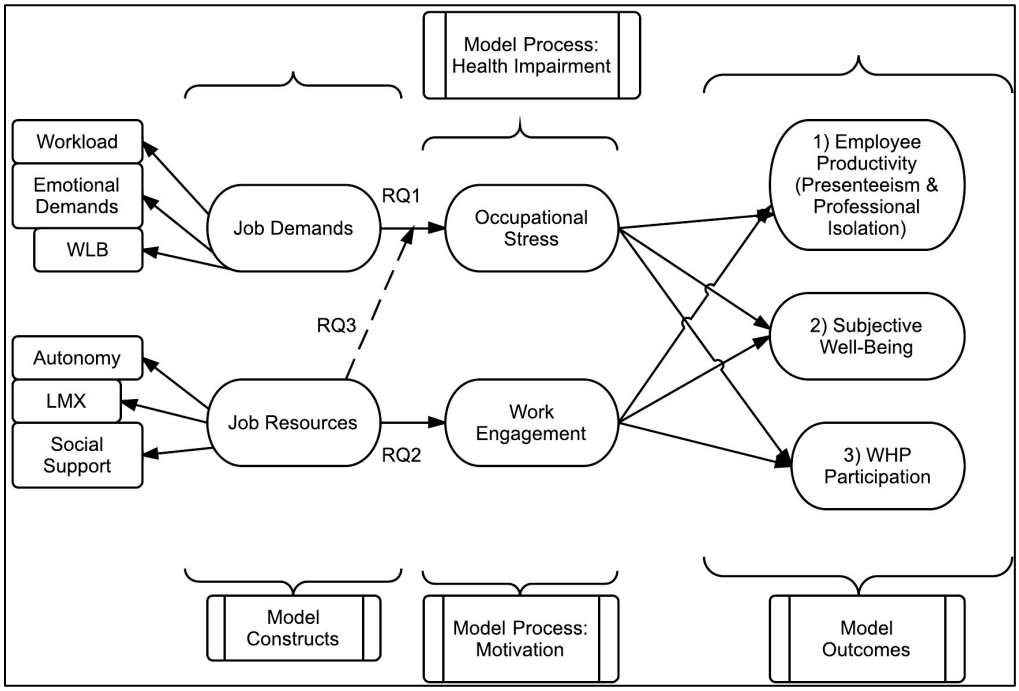


Figure 3.1: Proposed Research Model (RQ denotes Research Question)

Data Management

The data was collected confidentially to ensure protection of participants. Raw data was entered into a database, and each survey was assigned a number, which was useful for organization and analysis. Electronic data files are password-protected and under the care of the investigator, and hard copy data has been securely stored in the Principal Investigator's office within the UGA Department of Health Promotion and Behavior and will remain there for one year. Results and reports have been issued in aggregate form devoid of any identifying information about study participants.

Analysis Plan

All data entered into the statistical software database were screened for missing values and accuracy. In cases where data was missing, a listwise deletion method was employed, which is a conservative method that prevents data creativity and is satisfactory for a large sample size. To ensure accuracy of data entry, random inspections between the raw and entered data took place throughout the entry phase. Upon completion of these tasks, the prepared data set was analyzed using SPSS Statistics Software version 20. Specific analytic techniques included the following methodological procedures:

- Descriptive Statistics
- Exploratory Data Analysis (EDA)
- Multiple Linear Regression (MLR) with Mediation and Moderation

It is recommended to precede MLR with EDA to anticipate any problems associated with MLR as well as satisfy MLR assumptions. Multicollinearity is a problem with MLR because it violates the assumption that independent variables entered into the regression equation are not correlated with one another. To rule out multicollinearity, an examination of a matrix of correlation coefficients between the independent variables was conducted. Also, the tolerance value and variance inflation factor (VIF) was calculated for each independent variable. A tolerance value of less than 0.20 or 0.10 and/or a VIF of 5 or 10 and above indicates a multicollinearity problem. Correlations between the independent and dependent variables were also conducted to determine the suitability of further analyses.

For a statistical test to be accurate, a set of assumptions must be satisfied. Scatterplots based upon all of the correlation analyses provided support for the linearity assumption of MLR. Residual plots were examined to 1) detect outliers, 2) ensure that the residuals were random and independent, and 3) determine whether or not they appeared to fit the assumption of a normal distribution. In order to meet the MLR error assumption, the survey instrument was compiled of scales that retain high alpha values.

An exploratory factor analysis was performed to reveal and confirm the underlying structure of the sets of variables chosen to represent job demands and job resources; more specifically to ensure that the variables behave as expected. This was done using the principal axis factoring function with a promax rotation to create a structure matrix, which was used to assess the loading performance of each type of job demand and job resource.

Following the completion of the EDA, MLR with mediation and moderation was employed to test both assumptions of the JD-R model: 1) the predictive power of job demand and job resources and 2) the activation of the dual process constructs. MLR with mediation and moderation is an ideal choice for analysis because it can test the more complex relationships found within the JD-R model. MLR with an alpha adjustment modeled the theoretical underpinnings of the study in such a way that multiple job demands and job resources were analyzed while considering the effect of the dual process relationship as stated in the research questions and the corresponding hypotheses.

Research Question #1: To what extent do job demands impact employee productivity, subjective well-being, and WHP participation?

- **H_1:** In line with the health-impairment process, we predict that occupational stress mediates the relationship of job demands and employee productivity.
- **H_2:** In line with the health-impairment process, we predict that occupational stress mediates the relationship of job demands and subjective well-being.
- **H_3:** In line with the health-impairment process, we predict that occupational stress mediates the relationship of job demands and WHP participation.

Research Question #2: To what extent do job resources impact employee productivity, subjective well-being, and WHP participation?

- **H_1:** In line with the motivation process, we predict that work engagement mediates the relationship of job resources and employee productivity.
- **H_2:** In line with the motivation process, we predict that work engagement mediates the relationship of job resources and subjective well-being.
- **H_3:** In line with the motivation process, we predict that work engagement mediates the relationship of job resources and WHP participation.

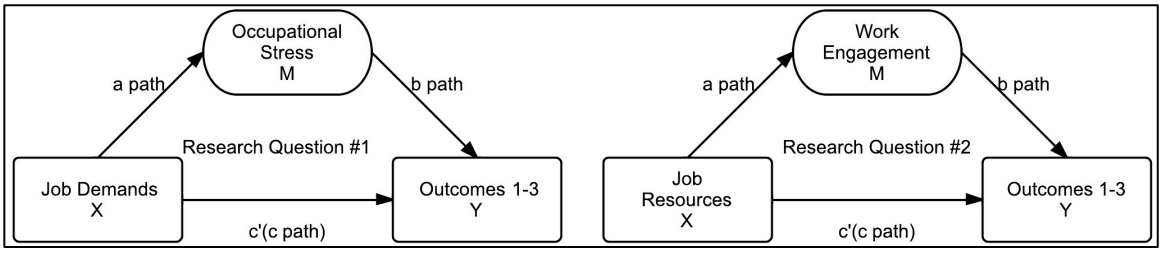


Figure 3.2: Hypotheses Pathways for Mediation

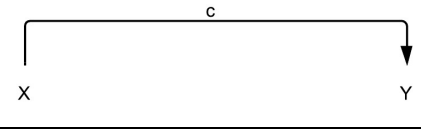
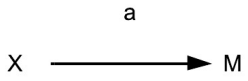
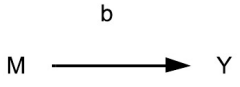
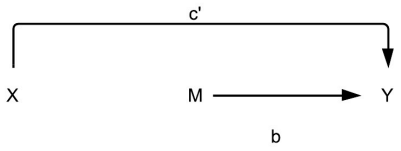
MLR with mediation tested the hypotheses of the first two research questions as illustrated in Figure 3.2. Paths a, b, and c' are called direct effects. Pathway c refers to the total effect of X on Y when the mediator is not present; whereas, the c' pathway features the mediator. The mediational effect, in which X leads to Y through M, is called the indirect effect. The indirect effect represents the portion of the relationship between X and Y that is mediated by M (X affects Y through the compound pathway of a and b).

Mediation occurs when one variable (independent) operates on another variable (dependent) via a third variable (mediator). The most widely used method to assess mediation is a four step process outlined by Baron & Kenny (1986). If all four of the steps are met, then the data are consistent with the hypothesis that the mediator variable fully mediates the independent-dependent variable relationship. If the first three steps are met, then the data are consistent with the hypothesis that the mediator variable partially mediates the independent-dependent variable relationship.

In testing each hypothesis of research questions 1 and 2, several regression analyses occurred within the four-step approach and significance of the coefficients was examined at each step. The proposed analysis of the four steps can be found in Table 3.2. The purpose of Steps 1-3 is to establish that zero-order relationships among the variables exist. Assuming there are significant relationships from Steps 1 through 3, one proceeds to Step 4. In the Step 4 model, some form of mediation is supported if the effect of M (path b) remains significant after controlling for X. If X is no longer significant when M is controlled, the finding supports full mediation. If X is still significant (i.e., both X and M both significantly predict Y), the finding supports partial mediation.

Table 3.2: Four Step Mediation Process

(Baron & Kenny, 1986)

	Analysis	Visual Depiction
Step 1	Conduct a simple regression analysis with X predicting Y to test for path c: $\boldsymbol{Y = B_0 + B_1X + e}$	
Step 2	Conduct a simple regression analysis with X predicting M to test for path a: $\boldsymbol{M = B_0 + B_1X + e}$	
Step 3	Conduct a simple regression analysis with M predicting Y to test for path b: $\boldsymbol{Y = B_0 + B_1M + e}$	
Step 4	Conduct a multiple regression analysis with X and M predicting Y to test for path c': $\boldsymbol{Y = B_0 + B_1X + B_2M + e}$	

Once the mediation analysis was completed, bootstrapping was then employed to calculate the indirect effect and test its significance as outlined by Preacher & Hayes (2004).

Research Question #3: To what extent do job resources buffer the effect of occupational stress from job demands?

- **H_1:** In line with the crosslink between job resources and stress, we predict that job resources moderates the relationship of job demands and stress.

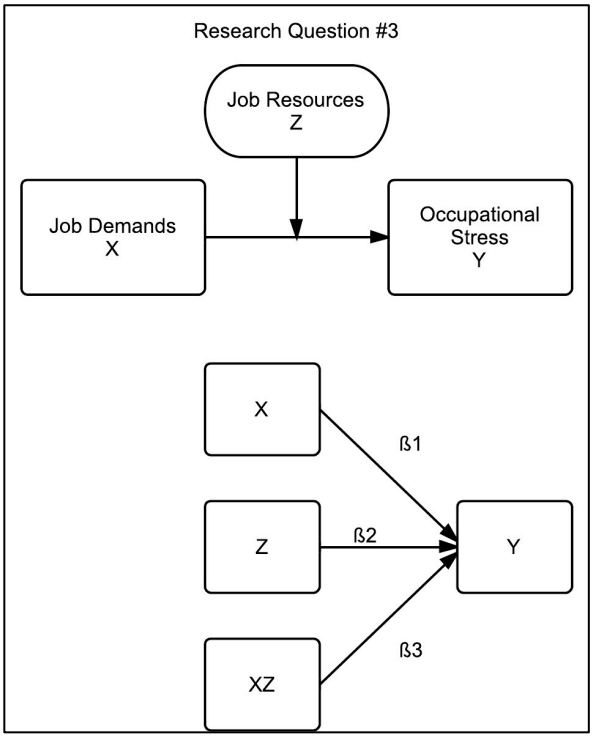


Figure 3.3: Hypothesis Pathway for Moderation
ß$_1$: The effect of X on Y
ß$_2$: The effect of Z on Y
ß$_3$: The effect of XZ on Y

In order to explore the buffering effect of job resources, MLR with moderation tested the hypothesis of the third research question. The moderation model tests whether the prediction of a dependent variable, Y, from an independent variable, X, differs across levels of a third variable, Z as depicted in Figure 3.3 (Fairchild & MacKinnon, 2009). Analytically, moderated effects reveal themselves statistically as an interaction between the independent and moderator variables. An interaction term was created and applied to the model in order to test the hypothesis. Hayes and Matthes (2009) outline the steps required

for MLR with moderation whereby the regression coefficient for the interaction term, $ß_3$, provides an estimate of the moderation effect. If $ß_3$ is statistically different from zero, there is significant moderation of the X-Y relationship (Fairchild & MacKinnon, 2009).

Model Selection

Social research studies usually have several independent variables, and the proposed study was no exception. With this comes the responsibility to enter these variables into the model in a strategic way. Two general guidelines for selecting independent variables was followed: 1) include enough to make the model useful for theoretical purposes and to obtain good predictive power, and 2) keep the model simple.

Hypothesis testing in explanatory research is conducted by varying the order of entry of independent variables into the regression equation. This follows the school of thought that, since order of entry has a profound impact on increase in variance explained at each step, "order of entry of independent variables into the regression is determined by the research problem and the design of the research" (Kerlinger, 1973). Therefore, hierarchical regression was employed, so that the decision of variable entry into the regression model was determined by theoretical, literature, and data concerns.

Protection of Human Subjects

Appropriate submission of forms to the Institutional Review Board (IRB) was completed and approved, and the investigator was in full compliance with the applicable federal, state, and institutional policies and procedures as

mandated by the institution. The investigator completed the required training (CITI IRB), and protocols for the inclusion of disabled persons, minorities and members of both sexes/genders were followed while partnering with ACC. Informed consent was obtained during data collection and all processes were fully explained and documented. The consent form can be found in Appendix C.

CHAPTER 4:

RESULTS

This study examined the impact of job design and organizational characteristics as defined by the JD-R model on employee well-being and productivity outcomes that were identified through the lens of workplace health promotion. This different context, setting, and population further explore the balance relationship within the JD-R model. The following section presents the sample demographics and the findings from all preliminary and primary statistical analyses directed at answering the research questions guiding the study.

4.1 Description of Sample

Eight hundred and forty-four employees completed the paper survey during the data collection phase of the study. However, surveys returned by part-time employees, those with less than one year of ACC employment, firefighters, and other non-day shift employees were not included in the study as previously outlined in the exclusion criteria in Chapter 3. Of the 844 returned, 798 were eligible; however, that number was further reduced because of respondent surveys that had more than 5% missing data and listwise deletion methods, which generated a final dataset of 738 employees.

With a close split between female and male respondents, the majority were non-Hispanic, Caucasian, and married as depicted in Table 4.1. More than half the sample was over the age of 41 (64.5%) and over 34% of respondents

had some college for education level. The observed sample was representative of the ACC workforce on each demographic level except that of gender and income.

Table 4.1: Demographic Characteristics of Sample

Characteristic	Mean (SD)	Range
Tenure ACC	12.44 (9.228)	1-40
Tenure in Department	11.71 (9.028)	1-40
	n	%
Gender		
Male	362	44.9
Female	444	55.1
Age		
18-30	79	9.3
31-40	183	21.7
41-60	506	60
>60	38	4.5
Ethnicity		
Hispanic or Latino	31	3.8
Not Hispanic or Latino	763	94.7
Race		
Black or African American	195	24.2
Caucasian	549	68.1
Other	48	6
Marital Status		
Single	81	10
Married	574	71.2
Widowed/Divorced/Separated	151	18.8
Education		
Some HS/ HS Degree/GED	161	19.9
Some college/vo-tech	276	34.2
Associate	59	7.3
Bachelor	180	22.3
Postgraduate work/degree	130	16.1
Income		
<50,000K	300	37.2
>50,000K	499	61.9
Dept/Division (Top 10)		
Central Services	28	3.5
Leisure	54	6.7
Finance	30	3.7
Police	140	17.4
Public Utilities	92	11.4
Public Works	51	6.3
Solid Waste	47	5.8
Streets/Drainage	31	3.8
Tax Commissioner	35	4.3
Transit	35	4.3

4.2 Preliminary Data Analyses

Preceding any analyses, the data were inspected for accuracy of data entry, missing values, presence of outliers, distribution fit, and the assumptions for multivariate analyses. A correlation matrix was created to portray the relationships between the operative variables as well as to identify any multicollinearity concerns. Descriptive statistics of each variable are displayed in Table 4.2 along with the obtained reliability statistic of each variable's associated scale. Moreover, Table 4.2 presents the final dataset (n=738) for analysis reflecting 1) respondent surveys with less than 5% missing data and 2) listwise deletion methods for missing data management, which explains the differing degrees of freedom (df) per analysis.

Table 4.3 contains the intercorrelations for all measured variables. Outliers were detected using boxplots, residual plots, and examination of influential observations during analysis. A missing value analysis was conducted to reveal less than 10% missing data overall with a non-significant Little's Test to confirm that missing data was random and appropriate for listwise deletion methods. Through the use of scatterplots, trend lines, and QQ/PP plots, assumptions of normality, linearity, and constant variance were satisfied.

Table 4.2: Descriptive Statistics for all Study Variables (n=738)

	Mean	Std. Deviation	Alpha
Leader-Member Exchange	3.877	0.815	α= 0.890
Autonomy	2.805	0.575	α= 0.922
Social Support	3.219	0.487	α= 0.837
Work Engagement	4.952	1.051	α= 0.925
Work-Life Balance	3.933	0.926	α= 0.950
Workload	3.022	0.409	α= 0.751
Emotional Demands	2.965	0.499	α= 0.704
Occupational Stress	3.697	0.827	α= 0.878
Participation	3.030	1.170	Single item
Professional Isolation	4.372	0.675	α= 0.851
Subjective Well Being	49.437	6.469	α= 0.912
Presenteeism	21.720	2.405	α= 0.596

Table 4.3: Correlation Matrix for Study Variables

		1	2	3	4	5	6	7	8	9	10	11
1	LMX											
2	Autonomy	.299**										
3	Social Support	.270**	.255**									
4	Work Engagement	.390**	.343**	.276**								
5	Work Life Balance	-.080*	-.101**	-.115**	-.242**							
6	Workload	-.133**	-.100**	-.142**	-.191**	.310**						
7	Emotional Demands	-.073*	-.014	-.150**	-.110**	.223**	.387**					
8	Occupational Stress	-.334**	-.231**	-.298**	-.326**	.324**	.426**	.336**				
9	Presenteeism	-.114**	-.007	-.085*	-.165**	.129**	.200**	.220**	.211**			
10	Professional Isolation	-.445**	-.253**	-.289**	-.294**	.170**	.263**	.252**	.367**	.302**		
11	Subjective Well-Being	.098**	.124**	.170**	.018	-.016	-.064	-.009	.094*	-.112**	-.113**	
12	Participation	.361**	.108**	.110**	.207**	-.111**	-.007	-.012	-.164**	-.026	-.242**	.106**

* $p < .05$ (2-tailed) ** $p < .01$ (2-tailed)

Separate exploratory factor analyses were conducted for job demands and job resources in order to confirm that the individual question items worked together to provide adequate measures of their respective job demand or job resource variable. A principal axis factoring with a promax rotation for the job demands revealed a high KMO (0.871), a significant Bartletts' test of sphericity ($p < 0.001$), and satisfactory communality values (> 0.2). A structure matrix for the job demands configured three factors that explained 45.6% of the total variance explained with no cross-loadings and low correlations between each factor.

Similar results were found for job resources in which a high KMO (0.908), a significant Bartletts' test of sphericity ($p < 0.001$), and satisfactory communality values (> 0.2) were found. The structure matrix for the job resources appropriately configured three factors that explained 51.6% of the total variance explained with minimal cross-loading and low correlations between each factor. The structure matrices for job demands and job resources are available in Appendix D.

4.3 Primary Data Analyses

Multiple linear regression with mediation and moderation was used to test the hypotheses of each research question (mediation for RQ1 and RQ2; moderation for RQ3) with an alpha adjustment based upon the study's multiple comparisons. Therefore, significant levels were reported in terms of .01 and .001. Baron and Kenny's four-step approach (1986) was used to test for mediation whereby several regression analyses were conducted for RQ1 and RQ2 (job demands and job resources respectively), and the coefficients were examined at

each step for significance. A stepwise method was used to enter job demands (i.e. workload, work-life balance, emotional demands) and job resources (i.e. autonomy, leader-member exchange, social support) into the model to assess the variance explained by each. The order of entry for each variable was based upon descriptive results, literature review, and theoretical importance.

Figure 4.1 depicts the steps involved in calculating mediation on a full or partial level. The first step measured the total effect of X on Y (path c), with the mediator not controlled. Subsequent steps were performed if this relationship was statistically significant. The second step measured the direct effect of X on M (path a), and the third step measured the direct effect of M on Y (path b). The final step of Baron and Kenny's approach was the assessment of the direct effect (path c') of X on Y when the mediator is introduced to the model. If significance is found in step four, partial mediation has been determined. If significance is not found in step four, but has been found in the first three steps, then full mediation has been established.

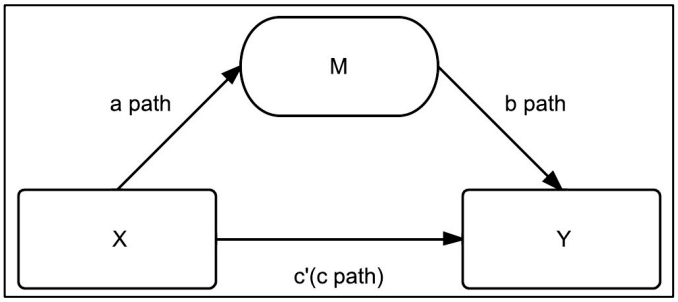


Figure 4.1: Mediation Analytic Approach used for Research Questions 1 and 2

When either full or partial mediation was found, the bootstrapping method with bias-corrected confidence estimates (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2004) was performed to calculate the indirect effect (a*b) and test for significance to confirm that X affects Y through the compound pathway of a*b. The significance value was given in the form of a confidence interval, and if the interval did not include the value of zero, then the indirect effect was significant. The 95% confidence interval of the indirect effect (a*b) was obtained with 5000 bootstrap resamples (Preacher & Hayes, 2008).

Research Question 1: To what extent do job demands impact employee productivity, subjective well-being, and WHP participation?

H1: In line with the health-impairment process, we predict that occupational stress mediates the relationship of job demands and employee productivity.

As the job demands were entered into the model using a stepwise method, each was found to be positively associated with occupational stress

yielding combined information to later test the indirect effect (a path: β = 0.05, *t* (775) = 15.93, *p* < 0.001). The three job demands were also positively related to presenteeism (c path: β = 0.06, *t* (775) = 6.62, *p* < 0.001). Lastly, occupational stress, the hypothesized mediator, was positively associated with presenteeism (b path: β = 0.39, *t* (775) = 3.35, *p* < 0.001).

Because both the a-path and b-path were significant, bootstrapping results of the mediation analysis confirmed the mediating role of occupational stress in the relationship between job demands and presenteeism (β = 0.02; CI = 0.0050 to 0.0321). In addition, results indicated that the direct effect of job demands on presenteeism remained significant (c' path: β = 0.04, *t* (775) = 4.11, *p* < 0.001) when controlling for occupational stress, thus suggesting partial mediation. Table 4.4 displays the results of the mediation steps.

Table 4.4: Mediation Steps for Job Demands and Presenteeism

	β	SE	*t*
Step 1: Pathway c	0.0614	0.0093	6.6154**
Step 2: Pathway a	0.0457	0.0029	15.9296**
Step 3: Pathway b	0.3878	0.1156	3.3539**
Step 4: Pathway c'	0.0437	0.0106	4.1139**

*$p < .01$ **$p < .001$

The same procedures were followed for the other employee productivity outcome: professional isolation. The job demands were entered into the model, and each was found to be positively associated with occupational stress (a path: β = 0.05, t (767) = 15.97, $p < 0.001$). The three job demands were positively related to professional isolation (c path: β = 0.02, t (767) = 8.68, $p < 0.001$). Occupational stress was positively associated with professional isolation (b path: β = 0.23, t (767) = 7.51, $p < 0.001$).

Because both the a-path and b-path were significant, bootstrapping results of the mediation analysis confirmed the mediating role of occupational stress in the relationship between job demands and professional isolation (β = 0.01; CI = 0.0072 to 0.0146). In addition, results indicated that the direct effect of job demands on professional isolation remained significant (c' path: β = 0.01, t (767) = 4.04, $p < 0.001$) when controlling for occupational stress, thus suggesting partial mediation. Table 4.5 displays the results of the mediation steps.

Table 4.5: Mediation Steps for Job Demands and Professional Isolation

	β	SE	*t*
Step 1: Pathway c	0.0220	0.0025	8.6844**
Step 2: Pathway a	0.0457	0.0029	15.9725**
Step 3: Pathway b	0.2320	0.0309	7.5068**
Step 4: Pathway c'	0.0114	0.0028	4.0393**

*$p < .01$ **$p < .001$

H2: In line with the health-impairment process, we predict that occupational stress mediates the relationship of job demands and subjective well-being.

The results indicated that the first step (c path) was non-significant (β = -0.0703; *t* (770) = -2.2291; *p* = 0.0261); therefore, no further analyses were performed, and it was concluded that job demands does not impact subjective well-being nor does occupational stress mediate the relationship between job demands and subjective well-being.

H3: In line with the health-impairment process, we predict that occupational stress mediates the relationship of job demands and WHP participation.

In regards to WHP participation, only one of the job demands, work-life balance, was significantly related to program participation. Work-life balance was measured to reflect an imbalance between work and life and was positively associated with occupational stress (a path: β = 0.34, *t* (797) = 6.99, *p* < 0.001) and negatively associated with WHP program participation (c path: β = -0.26, *t* (797) = -3.71, *p* < 0.001). Occupational stress was negatively associated with WHP program participation (b path: β = -0.21, *t* (797) = -4.07, *p* < 0.001).

Bootstrapping results of the mediation analysis confirmed the mediating role of occupational stress in this relationship (β = 0.07; CI = 0.0332 to 0.1179). The direct effect of job demands on WHP program participation remained significant (c' path: β = -0.19, *t* (797) = -2.66, *p* < 0.01) when controlling for occupational stress, thus suggesting partial mediation. Table 4.6 displays the results of the mediation steps.

Table 4.6: Mediation Steps for Job Demands and WHP Participation

	β	SE	*t*
Step 1: Pathway c	-0.2620	0.0706	-3.7109**
Step 2: Pathway a	0.3415	0.0488	6.9968**
Step 3: Pathway b	-0.2065	0.0507	-4.0698**
Step 4: Pathway c'	-0.1915	0.0720	-2.6579*

*$p < .01$ **$p < .001$

Research Question 2: To what extent do job resources impact employee productivity, subjective well-being, and WHP participation?

H_1: In line with the motivation process, we predict that work engagement mediates the relationship of job resources and employee productivity.

The job resources were entered into the model using a stepwise method, and each was found to be positively associated with work engagement yielding combined information to later test the indirect effect (a path: β = 0.60, *t* (771) = 7.60, *p* < 0.001). The three job resources were then found to be negatively

associated with presenteeism (c path: β = -1.14, *t* (771) = -6.22, *p* < 0.001). Work engagement, the hypothesized mediator, was negatively associated with presenteeism (b path: β = -0.27, *t* (771) = -3.22, *p* < 0.01).

Bootstrapping results of the mediation analysis confirmed the mediating role of work engagement in the relationship between job resources and presenteeism (β = 0.16; CI = 0.0667 to 0.2797). In addition, results indicated that the direct effect of job resources on presenteeism remained significant (c' path: β = -0.98, *t* (771) = -5.19, *p* < 0.001) when controlling for work engagement, thus suggesting partial mediation. Table 4.7 displays the results for the tested mediation model.

Table 4.7: Mediation Steps for Job Resources and Presenteeism

	β	SE	*t*
Step 1: Pathway c	-1.1431	0.1836	-6.2246**
Step 2: Pathway a	0.5997	0.0789	7.5992**
Step 3: Pathway b	-0.2689	0.0833	-3.2272*
Step 4: Pathway c'	-0.9819	0.1892	-5.1884**

*$p < .01$ **$p < .001$

The same procedures were followed for the other employee productivity outcome: professional isolation. The job resources were entered into the model, and each was found to be positively associated with work engagement (a path: β = 0.60, *t* (763) = 7.53, *p* < 0.001). The three job resources were negatively

related to professional isolation (c path: β = -0.40, *t* (763) = -8.03, *p* = 0.0000). Work engagement was negatively associated with professional isolation (b path: β = -0.15, *t* (763) = -6.66, *p* < 0.001).

Bootstrapping results of the mediation analysis confirmed the mediating role of work engagement in the relationship between job resources and professional isolation (β = 0.09; CI = 0.0545 to 0.1351). In addition, results indicated that the direct effect of job resources on professional isolation remained significant (c' path: β = -0.32, *t* (763) = -6.21, *p* < 0.001) when controlling for work engagement, thus suggesting partial mediation. Table 4.8 displays the results of the mediation model.

Table 4.8: Mediation Steps for Job Resources and Professional Isolation

	β	SE	*t*
Step 1: Pathway c	-0.4043	0.0504	-8.0257**
Step 2: Pathway a	0.5964	0.0792	7.5272**
Step 3: Pathway b	-0.1491	0.0224	-6.6573**
Step 4: Pathway c'	-0.3154	0.0508	-6.2098**

*p < .01 **p < .001

H2: In line with the motivation process, we predict that work engagement mediates the relationship of job resources and subjective well-being.

Concerning subjective-well-being, only one job resource was significantly appropriate for the model. Social support was positively associated with work

engagement (a path: β = 0.28, *t* (789) = 7.25, *p* < 0.001) and the physical component summary (PCS) score of the total subjective well-being score (c path: β = 0.80, *t* (789) = 2.67, *p* < 0.01). Additionally, work engagement was positively associated with the PCS (b path: β = 0.84, *t* (789) = 3.08, *p* < 0.01).

Bootstrapping results confirmed the mediating role of work engagement in the relationship between job resources and the PCS (β = 0.24; CI = 0.0869 to 0.4456). In addition, results indicated that the direct effect of job resources on the PCS remained significant (c' path: β = 1.03, t (789) = 3.36, *p* < 0.001) when controlling for work engagement, thus suggesting partial mediation. Table 4.9 displays the results of the mediation model.

Table 4.9: Mediation Steps for Job Resources and Subjective Well-Being

	β	SE	*t*
Step 1: Pathway c	0.7963	0.2987	2.6657*
Step 2: Pathway a	0.2804	0.0387	7.2452**
Step 3: Pathway b	0.8415	0.2733	3.0792*
Step 4: Pathway c'	1.0323	0.3069	3.3641**

*$p < .01$ **$p < .001$

H3: In line with the motivation process, we predict that work engagement mediates the relationship of job resources and WHP participation.

Similar to the subjective well-being results, only one job resource was significantly appropriate for the model. Leader-member exchange (LMX) was

positively associated with work engagement (a path: β = 0.43, *t* (793) = 10.09, *p* = 0.0000) and WHP participation (c path: β = 0.24, *t* (793) = 4.77, *p* < 0.001). Additionally, work engagement was positively associated with WHP participation (b path: β = 0.22, *t* (793) = 5.41, *p* < 0.001).

Bootstrapping results of the mediation analysis confirmed the mediating role of work engagement in the relationship between job resources and WHP participation (β = 0.09; CI = 0.0550 to 0.1412). In addition, results indicated that the direct effect of job resources on WHP participation remained significant (c' path: β = .14, *t* (793) = 2.74, *p* < 0.01) when controlling for work engagement, thus suggesting partial mediation. Table 4.10 displays the results of the mediation model.

Table 4.10: Mediation Steps for Job Resources and WHP Participation

	β	SE	*t*
Step 1: Pathway c	0.2372	0.0498	4.7650**
Step 2: Pathway a	0.4329	0.0429	10.0898**
Step 3: Pathway b	0.2192	0.0405	5.4135**
Step 4: Pathway c'	0.1423	0.0520	2.7391*

*p < .01 **p < .001

Table 4.11 provides the model fit indices for each mediation model analyzed with research questions 1 and 2.

Table 4.11: Mediation Model Summaries

	R-Square	Adj. R-Square	F	Df	df	*p*
Job Demands and Presenteeism	0.0670	0.0646	27.7953	2	774	**
Job Demands and Professional Isolation	0.1519	0.1497	68.6074	2	766	**
Job Demands and WHP Paticipation	0.0370	0.0346	15.3013	2	796	**
Job Resources and Presenteeism	0.0606	0.0581	24.8167	2	770	**
Job Resources and Professional Isolation	0.1285	0.1262	56.1943	2	762	**
Job Resources and Subjective Well-Being	0.0207	0.0182	8.3320	2	788	**
Job Resources and WHP Participation	0.0625	0.0602	26.4104	2	792	**

*$p < .01$ **$p < .001$

4.4 Mediation Summary

Pertinent to the first two research questions, the results indicate that job demands impact employee productivity and WHP participation but not subjective well-being. It was hypothesized that occupational stress (as a health impairment process) mediates these relationships. The tests for mediation revealed partial mediation for both productivity and program participation.

It was also established that job resources impact employee productivity, subjective well-being, and WHP participation. Here work engagement was considered to be an underlying motivational process. Indeed, the process was activated by the partial mediating effect of work engagement on the relationship between job resources and each of the outcomes.

While RQ1 and RQ2 have served to confirm 1) the impact of job demands and job resources and 2) the JD-R model dual process activation using occupational stress and work engagement as mediators, RQ3 examined the buffering effect of job resources.

Research Question 3: To what extent do job resources buffer the effect of stress from job demands?

H_1: In line with the crosslink between job resources and occupational stress, we predict that job resources moderate the relationship of job demands and occupational stress.

This hypothesis suggests that the relationship between job demands and occupational stress differs across levels of job resources; more specifically, job demands would be associated with differing levels of occupational stress when job resources are low as compared to when job resources are high. Three steps as outlined by Hayes and Matthes (2009) were conducted to test the individual and combined effects of job demands and job resources on occupational stress whereby Y was regressed on X, Z, and XZ as depicted in Figure 4.2.

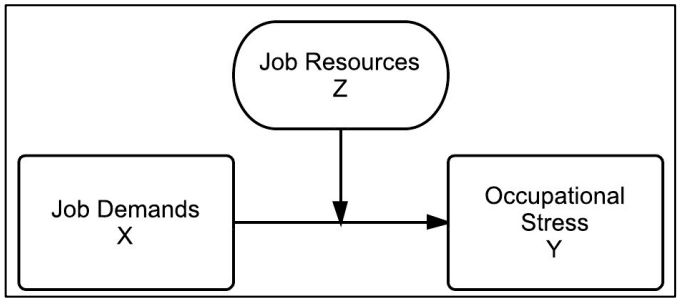


Figure 4.2: Moderation Analytic Approach used for Research Question 3

The first step involved the stepwise entering of each job demand (i.e. workload, work-life balance, emotional demands, respectively) into the model. Secondly, each job resource representing the moderator variable was entered also using a stepwise method (i.e. autonomy, leader-member exchange, social support, respectively). Lastly, providing a test of the hypothesis, the interaction terms between the job demands and job resources were entered (total of nine interaction terms). After each step, the amount of additional explained variance was assessed, and it was found that workload ($\beta = 0.40$, $t\ (777) = 12.72$, $p < 0.001$) and leader-member exchange ($\beta = -0.28$, $t\ (777) = -9.04$, $p < 0.001$) emerged as the sole job demand and sole job resource for the moderation model. All others were excluded from the model.

Prior to these analyses, the predictor and moderator variables were centralized whereby new variables were created in which the respective means were subtracted from each observation. Centering is necessary for quantitative

variables in order to reduce multicollinearity so that the effects of the predictor and moderator are distinguishable from the interaction.

The first step revealed a main effect of job demands, in that higher levels of job demands were related to greater occupational stress (β = 0.40, R^2 change = 0.17, F[1, 779] = 163.62, $p < 0.001$). The addition of the moderator variable to the equation during the second step also revealed a main effect, in that job resources predicted occupational stress over and above the unique contributions of job demands (β = -0.28, R^2 change = 0.08, F[1, 778] = 82.29, $p < 0.001$). More specifically, higher levels of job resources were related to lower levels of occupational stress. As a test of the hypothesis, the addition of the job demands x job resources interaction term explained a statistically significant proportion of variance beyond that accounted for by the other predictors (i.e. main effects) in the model (β = -0.084, R^2 change = 0.007, F[1, 777] = 7.33, $p < 0.01$).

Simple slope analyses were then conducted using the standardized beta values for a series of equations to determine the nature and directionality of the interaction (Aiken, 1991). Simple slope refers to the slope of the regression of Y on X at a single value of Z. The regression equation used for one interaction term between two continuous variables was $\hat{Y} = b_1X + b_2Z + b_3XZ + b_0$. The XZ interaction signified that the regression of Y on X depended upon a specific value of Z, which yielded a different line for the regression of Y on X at every value of Z (Aiken, 1991). Therefore, the regression equation was restructured to express the regression of Y on X at different levels of Z: $\hat{Y} = (b_1 + b_3Z)X + (b_2Z + b_0)$. The Z values were based upon the use of the standardized beta coefficients and were

then substituted (-1 SD for low; +1 SD for high) to generate the simple regression equations for plotting.

Results revealed that amongst those with high levels of job resources, lower levels of job demands were associated with decreased occupational stress ($\beta = 0.20$, $t\ (777) = 4.43$, $p < 0.001$) suggesting that job resources buffer the effect of job demands on occupational stress when job resources are high. The moderation effect of job resources on the relationship between job demands and occupational stress is depicted below in Figure 4.3.

Figure 4.3: Buffering Effect Interaction

4.5 Moderation Summary

The present study confirmed the hypothesis of RQ3, in that the relationship between job demands and occupational stress differed as a function of the level of job resources. These results also validate the cross-link/balance mechanism of the JD-R model as it highlights the interaction of job demands and job resources and its effect on occupational stress. Chapter 5 will further explore this moderating effect found in RQ3 as well as the mediating processes of RQ1 and RQ2.

CHAPTER 5:

DISCUSSION

The purpose of this study was to assess the impact of job design and organizational characteristics on employee well-being and productivity through the examination of specific job demands and job resources that employees are exposed to one-third of their day. Chapter 5 presents a summary and interpretation of the principal findings based upon this purpose. The chapter continues with a discussion of the implications, which provides a series of recommendations used to advance theory, research, practice, and policy. Study limitations will be reviewed to explain the unexpected circumstances that constrained the interpretations of the findings, and the final conclusions will bring the study full circle by synthesizing the discussion and highlighting the key elements that reinforce the significance of the research.

5.1 Summary

The study was built upon three central research questions with specific hypotheses designed to test the JD-R model through the lens of workplace health promotion within a dynamic workforce. Therefore, the principal findings will be discussed in reference to the assessment of 1) the impact of job demands and job resources on employee well-being and productivity outcomes, 2) the dual process activation of the health impairment and motivation processes, and 3) the buffering effect of job resources.

Job Demands & Job Resources

The impact of job demands and job resources on employee well-being and productivity outcomes was assessed through their respective total and direct effects within the proposed JD-R model.

Employee Productivity. Consistent with expectations, job demands negatively affected employee productivity, as represented by an increase in presenteeism and professional isolation. This finding was specifically consistent with previous research regarding presenteeism (Demerouti, Le Blanc, Bakker, Schaufeli, & Hox, 2009). Likewise with expectations and previous research (Hakanen, Schaufeli, & Ahola, 2008; Schaufeli et al., 2009), job resources positively affected employee productivity with the occurrence of decreased presenteeism and professional isolation rates.

Although there is considerable research linking presenteeism to job demands (Hansen & Andersen, 2008; Johns, 2010; Schultz & Edington, 2007), presenteeism has not been a featured variable in JD-R research, and its inclusion in the study confirmed the relationship with job demands and revealed a relationship with job resources.

Professional isolation, an exploratory element of the study, quickly became of interest, as it was the highest-correlating outcome in the study. It was used as a measure for employee productivity, due to its association with lowered work performance and increased stress rates (Dussault et al., 1999; Golden et al., 2008).

It would seem that professional isolation exists beyond the digital workplace into the physical workplace among the cubicles, break room, and conference room. This is surprising because the physical workplace has the social, communal, and human dimension that satisfies a basic need for contact and community (Baumeister & Leary, 1995). However, the current study confirmed its presence in the physical workplace, which is less surprising when one visit to the office finds employees behind their computers, tending to their phone activity, and ultimately too distracted to physically interact with nearby coworkers. While technology advances often receive most of the blame for professional isolation, there are other culprits: time, power differentials, availability of peers, and so forth (Cooper & Kurland, 2002).

The current research has set the stage for both presenteeism and professional isolation as organizational outcomes in the JD-R model that are sensitive to both job demands and job resources. This finding demonstrates the balance mechanism of the JD-R model that, when observed together, job demands and job resources work together to inversely effect employee productivity.

Subjective Well-Being. Contrary to expectations, the current study found that subjective well-being, as defined by the SF-12, was not affected by job demands. This runs counter to previous research that has linked job demands to subjective well-being outcomes operationalized as psychosomatic symptoms, strain, negative mood, and life satisfaction (De Cuyper & De White, 2006; Jin, Yeung, Tang, & Low, 2008; van Emmerik & Jawahar, 2006). With that said,

subjective well-being, operationalized through the SF-12, has not been a feature of previous JD-R research; rather, 'health problems' have been assessed using the General Health Questionnaire (GHQ), and they were only analyzed in conjunction with job demands (Lewig et al., 2007; Schaufeli & Bakker, 2004).

Subjective well-being, specifically the physical components summary (PCS) score of the SF-12, was positively affected by one of the job resources factors, social support. Interestingly, PCS and social support have been studied together in other areas of research. Research in cardiology shows that as sources of social support decline so does physical functioning (Berard, Van Den Kerkhof, Harrison, & Tranmer, 2012). Moreover, quality of life research found that higher social support had positive associations with PCS-12 scores among low-income HIV adults using an HIV service center (Viswanathan, Anderson, & Thomas, 2005).

The SF-12 was chosen for this study because of 1) its prior use in WHP research (Parslow et al., 2004; Rothermund et al., 2012) and 2) its perceived suitability for assessing the effects of job demands and job resources. However, this measure was not sensitive with reference to job demands within the JD-R; nonetheless, its association with job resources may provide the JD-R model with a complete measure for subjective well-being if paired with the GHQ, which has only been used in conjunction with job demands.

WHP Participation. In addition to presenteeism, the assessment of WHP participation in the present study was an attempt to extend JD-R research into the realm of workplace health promotion, with the basic idea that job design and

organizational factors may have important ramifications. An inverse relationship was observed in regards to how job demands and job resources affected WHP participation. One job demand in particular, work-life balance was negatively associated with participation, which at first glance seems contrary to expectations. However, work-life balance in this study was measured to reveal an imbalance between work and life, which meant that every unit of work-life *imbalance* resulted in a decrease of WHP participation while one job resource, LMX, revealed a positive association with WHP participation.

Within JD-R research, work-life balance (termed work-home interference) was used as an outcome for the interplay of various job demands and job resources. Workload was found to be an important predictor of work-home interference, but the result was negated when employees had sufficient job resources (ten Brummelhuis et al., 2011). LMX has had a place in JD-R research most notably as a measure for supervisory support, and its role as a job resource within the study met research expectations (Euwema & Bakker, 2009; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). As the supervisor may play an important role in facilitating or impeding WHP participation, this variable requires detailed examination in future WHP research. The present results suggest that more attention and perhaps more differentiation are needed to determine the types, sources, and implications of supervisory support.

The negative association between work-life balance and WHP participation represents both a barrier and an opportunity. A compromised work-life balance is a deterrent to WHP participation. Employees that are struggling

between the two domains of work and life are certainly not going to carve out more time for yet another commitment. However, employers can take the opportunity to redesign work and WHP in such a way as to increase employees' resources for meeting work and family demands (Valcour, 2007).

The positive association of LMX and WHP participation reveals a social exchange relationship that is based upon trust (Scandura & Pellegrini, 2008). Supervisor support has been identified as a key component of WHP sustainability (Della et al., 2010; Noblet & Lamontagne, 2006), and now it has been confirmed as a key component to WHP participation. These results support the idea that the combination of specific job demands and job resources should be taken into account to gain a clear picture of which particular job designs facilitate WHP participation (ten Brummelhuis et al., 2011).

Dual Process Activation

The activation of the health impairment and motivation processes was analyzed through mediation, which is frequently used in JD-R research to assess the existence and impact of the indirect effect of the dual processes (health impairment and motivation). The indirect effect refers to the mediating role of the dual process constructs (occupational stress and work engagement) on relationships between job demands/job resources and organizational outcomes (Schaufeli et al., 2003). The mediating effect, if found, is either in full or partial operation, which is dependent upon the strength of the model's independent variable(s) (i.e., job demands and job resources).

Consistent with expectations and previous research, the mediator for the health impairment process, occupational stress, partially mediated the effect of job demands on employee productivity and WHP participation. The mediator for the motivation process, work engagement, partially mediated the effect of job resources on employee productivity, subjective well-being, and WHP participation (Korunka, Kubicek, Schaufeli, & Hoonakker, 2009; Lewig et al., 2007; Schaufeli et al., 2009; van Riet & Bakker, 2008).

Occupational stress and work engagement were responsible for partial influence within the mediation models but were not strong enough to fully explain/account for the effect of job demands and job resources. Nevertheless, partial mediation suggests that job demands and job resources produce their effects both directly and indirectly through the underlying health impairment and motivational processes as predicted by the JD-R.

Buffering Effect

The moderation analysis served as a means to investigate the buffering effect of job resources through the crosslink relationship between job resources and occupational stress, and the relationship confirmed an interaction effect between job demands and job resources. The interaction effect revealed that 1) the relationship between job demands and occupational stress was dependent upon low and high levels of job resources and 2) when high levels of job resources were present, job demands were associated with decreased occupational stress relative to when job resources were low.

The buffering effect of job resources is well documented within JD-R literature (Demerouti et al., 2005; Xanthopoulou, Bakker, Dollard, et al., 2007). However, it has not been explicitly explored with occupational stress as an outcome. Within the moderation model, the relationship between job demands and occupational stress was clearly assessed, and more importantly the strength of their relationship was dependent upon job resources. The interaction effect between job demands and job resources in the present study can be reduced down to the effect between one job demand, workload, and one job resource, leader-member exchange (LMX). Interestingly, the same interaction between workload and LMX was explored in previous JD-R research (Euwema & Bakker, 2009).

Workload is often used to represent job demands, and its effect was reduced in a previous JD-R study when employees experienced a high-quality relationship with their supervisor as defined by LMX (Lee, 2011). Social support and variations of social support, such as LMX, are viewed as the buffering resource against high job demands, and Meijman and Mulder (1998) suggest that the social aspect of job resources provide the psychological mechanism needed to cope with and buffer the effect of stress associated with job demands. Cohen (2004) defines the psychological mechanism as ‘stress buffering’ in which social support eliminates or reduces effects of stressful experiences by promoting 1) less threatening interpretations of adverse events and 2) effective coping strategies.

A direction for research based upon this study's interaction effect would be that of identifying the types of supervisor support and assessing their impact within the JD-R model (i.e., instrumental support, emotional support, etc.), which would provide WHP more support for supervisor involvement. Also, substituting occupational stress with the study's employee productivity outcomes would be an ideal extension for JD-R and WHP. Directions beyond this study would include the identification and inclusion of other job resources that interact with job demands to produce a buffering effect against negative organizational outcomes.

5.2 Implications

Recommendations for theory, research, practice and policy reflect the purpose of this study as a means for JD-R growth within the scope of WHP. The continued growth of the JD-R model within WHP research is critical to the expansion of traditional WHP whereby programs embrace the job design and organizational characteristics that have been found to affect employee well-being and productivity. In order to achieve this, however, JD-R research requires continued growth in the detailed exploration of job design and organizational characteristics, which will be dependent upon the incorporation of new theories, contexts, and construct overhaul.

Job Demands-Resources Model

The JD-R model was designed with structured flexibility in the sense that researchers can explore combinations of job demands, job resources, etc. within model pathways that are typically fixed. This structured flexibility has allowed for growth and wide interpretation. However, there are areas in which the model

seems trapped. It has been used time and time again with specific samples in specific settings with the same measures for job demands, job resources, and dual process constructs. Similar analyses have been performed to repeatedly exhaust consistent findings while only changing minute details of the model. This conservative method of incremental science does not make use of the JD-R potential.

This study made use of the JD-R potential by 1) incorporating a different construct for the health impairment process, 2) featuring an interaction model that isolated job demands and job resources, 3) choosing unique combinations of job demands and job resources, and 4) integrating outcomes related to workplace health promotion. Theorists and researchers should likewise exercise the model's flexibility and tap into the intricacies of the workforce and the workplace, such as the identification and inclusion of new job demands and job resources and more applications with diverse settings and employee populations. These model refinements could have many implications for both JD-R and workplace health research.

Lastly, the JD-R was derived from other balance models, Job Demands-Control (JDC) and Effort-Reward Imbalance (ERI), and its association to these models has been well documented (Boyd, Bakker, Gillespie, & Stough, 2011; Demerouti et al., 2005; Lewig et al., 2007). Therefore, an area of theory development would be the integration of new models, such as the social ecological model that suggests multiple levels of influence (intrapersonal, interpersonal, institutional, etc.) affect individual behavior (Linnan et al., 2001).

The combination of these models could provide more insight into how job demands and job resources operate at multiple levels of influence.

The JD-R application through the lens of workplace health promotion was a unique extension of the model. The WHP context was used as a tool to enrich a model application for the sole benefit of extending it to an area of workplace research that is in need of scholarly attention. In examining outcomes related to and important to workplace health promotion, there was a sharper focus on why job design and organizational characteristics are of importance to employee well-being and productivity. Employee well-being and productivity outcomes within the JD-R can survive outside the WHP context, specifically in studies of monetary impact; however, in light of the current research, they should always be viewed in relation to the job design and organizational factors that may be present (i.e., job demands and job resources).

Attendant to the current research, a natural direction for JD-R research would involve more sophisticated analyses featuring group level investigations at the department/division level in order to identify specific demands and resources associated with particular departments/divisions. Additionally, gender differences would also provide more insight into how job demands and job resources affect employee well-being and productivity. There is currently a movement in gender studies specific to LMX and social support (Berard et al., 2012; Goertzen & Fritz, 2004).

Workplace Health Promotion

There are several priority areas for workplace health promotion research (i.e., evidence-based practice, best practices, integrating policy, etc.); however, the impact of research is only realized if effective and timely dissemination takes place (Noblet & Lamontagne, 2006). The current research attends to several priority areas for WHP research but goes further to address dissemination recommendations related to practice and policy.

As a result of this study, a comprehensive model of JD-R rooted in WHP has been developed to help explain and predict the impact of job design and organizational factors on employee well-being and productivity. Along with that, a strong literature base has been provided to support the study's results and recommendations.

Model recommendations for continued use of the JD-R in WHP research involve elaborated versions that emphasize personal resources (i.e., self-esteem and self efficacy) and safety outcomes (i.e., adverse events, injury/accident rates, and unsafe behavior) (Nahrgang et al., 2011; Schaufeli et al., 2009). Also related to outcomes is the recommendation to incorporate both subjective and objective organizational outcomes. Presenteeism, as a subjective measure, should be paired with an objective complement such as sickness absenteeism. The sole reliance on subjective measures should be avoided to reduce potential biases (Korunka et al., 2009).

A final recommendation for WHP research is related to the core motivation of WHP participation. Is it related to any one motive (i.e., health benefits, social feature, incentives, etc.) or a combination of motives?

Several recommendations for practice have come to light due to the results of the study. Employers would be well served to consider the ramifications of presenteeism and professional isolation that may be plaguing their workforce. It would also behoove employers to work with WHP to help identify those in need and to eliminate barriers to participation.

WHP programs can approach the workplace as more than a venue for delivering services, by accounting for the effects of job design and organizational factors. Employees are more apt to accept WHP if it is accompanied by workplace changes, in which WHP could be an advocate (Punnett, Cherniack, Henning, Morse, & Faghri, 2009). The principle of combining WHP with an organizational approach could improve WHP and sustain positive behavior change. Other practice recommendations reflect goals of recruitment and reach that would encourage continued growth of WHP to build the case for more support, such as continued budget consideration, health insurance premium reductions, and incentive endorsements (McGillivray, 2002):

- *WHP should consider the organizational characteristics (types of demands and resources) that are present within a given job description, which can be widely varied in a dynamic workforce such as the one in this study. WHP could then be the agent for change in job designs that are unhealthy for employees.*

- *WHP planning should focus on helping employees identify the resources associated with their job/department.*
- *WHP education efforts should specify work-life balance strategies (i.e., disconnection, separation, planning, management, etc.) (Schieman, Milkie, & Glavin, 2009).*
- *Ultimately, WHP is a job resource, and it should be marketed as such, especially to supervisors for both program support and emphasis on the role of LMX on participation and occupational stress.*
- *Although presenteeism and professional isolation were treated as employee productivity outcomes within the study, they should be considered by WHP in terms of barriers to participation.*

Policies have to evolve with the changing workplace and workforce if employee health is going to thrive (Wilson, 2008). Policy recommendations are only successful with WHP practice integration, and it is the practice integration that provides evidence and leverage for WHP that can then be used to shape policy change based upon employee health, such as policies that are more sensitive to work-life balance and flexible work schedules.

5.3 Limitations

Like most studies, the results of this study must be viewed in light of certain limitations. The most notable limitation is that of the cross-sectional design in which the survey data were collected at one point in time. A result of this is the inability to confidently infer the causal direction of the JD-R model pathways within the study. For instance, it could be the case that occupational

stress is not only an outcome of job demands, but also a cause, as seen with exhaustion (Demerouti, Bakker, & Bulters, 2004). Therefore, longitudinal studies are desirable and needed to confirm the proposed relationships.

Secondly, the study exclusively relied upon self-report measures increasing the chances of common method variance effects, which may have generated a significant effect when the only real effect was due to the method employed (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Multiple and objective techniques should be utilized in order to overcome bias associated with using a common method.

Despite efforts to equalize the recruitment of WHP program participants versus non-participants, there remained a discrepancy between the two groups (68% members; 32% non-members). Additionally, the sample is somewhat misleading when income is considered wherein 51% of the sample earns over $50,000, which indicates that overall population access was inadequate when considering the average ACC income is $43,000.

Although the population is diverse in terms of job descriptions, the sample did not reflect as much diversity as anticipated. However, it was representative of the ACC workforce in terms of ethnicity and marital status.

Additionally, the study's close alignment with the wellness program also entailed an indirect closeness to the Human Resources department, which may have introduced a bias in terms of who responded and the quality of responses.

5.4 Conclusions

The current research has provided a picture of what is occurring within the workplace. It has also provided the WHP field with incremental steps toward theory development, research queries, and dissemination. The study and results are consistent with literature findings in terms of establishing the relationship between job demands and job resources and assessing their impact on employee well-being and productivity.

The study further verified the use of the JD-R model in a workplace setting outside of its typical application (healthcare/clinical) as well as its appropriateness for a wide range of job descriptions. Lastly, the JD-R model was successfully tested within a workplace health promotion context whereby it assessed the impact of job design and organizational characteristics (as defined by job demands and job resources) on employee well-being and productivity and confirmed that job demands and job resources play an important role in the workplace, and both must be present and in balance for an organization's human capital to thrive.

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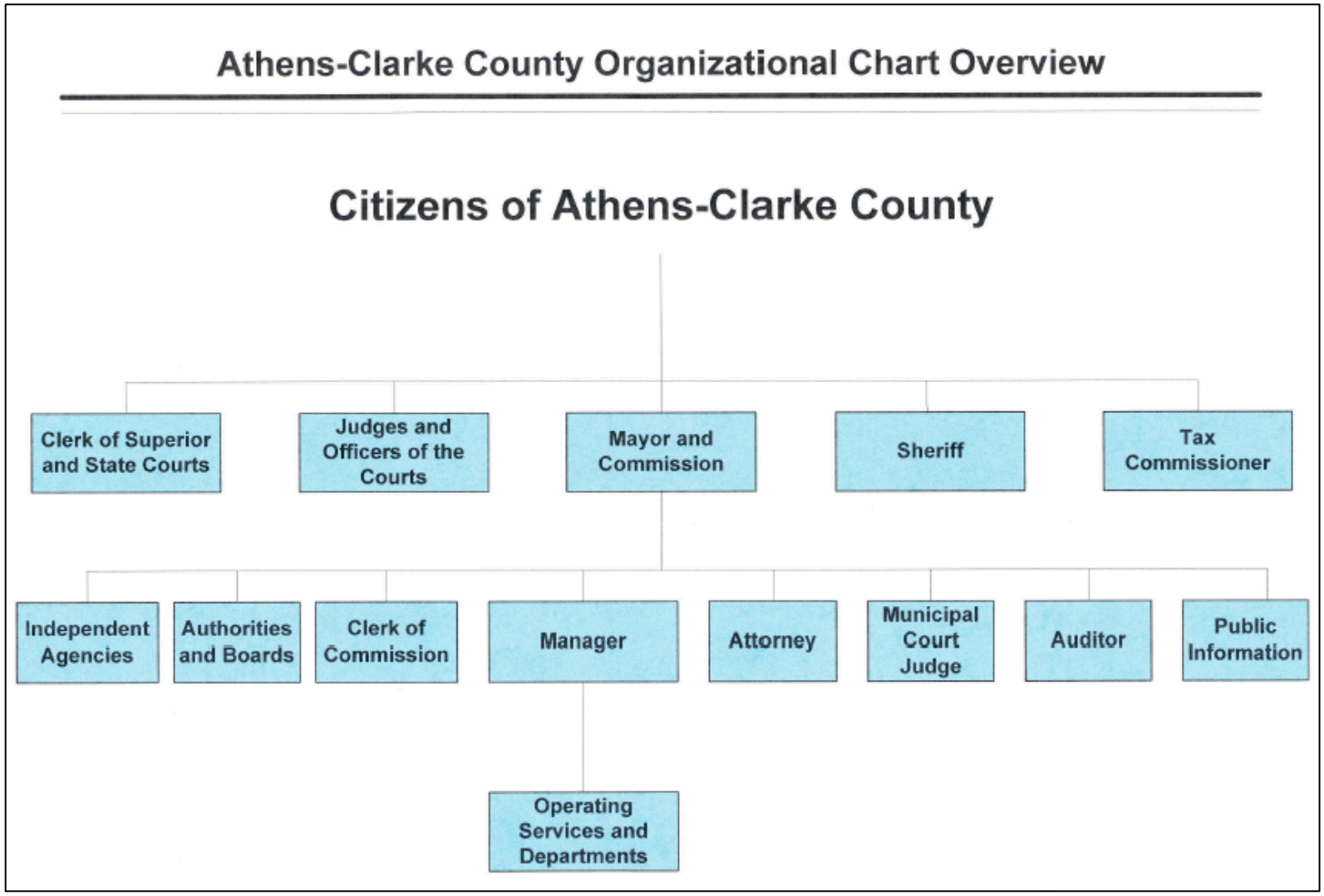
APPENDIX A:

ACC ORGANIZATIONAL CHART

Athens-Clarke County Organizational Chart Overview



APPENDIX B:

ACC WELLNESS PROGRAM SCHEDULE OF EVENTS

ACCess WELLNESS HEALTHY SOLUTIONS

FY13 ACC WELLNESS PROGRAM SCHEDULE
JUNE - DECEMBER 2012

Programs are open to all ACC employees.
These opportunities may be used to meet TIER or POINTS requirements.

Registration is necessary for Healthy Hours!
Contact the Wellness Team by email at wellnessteam@athensclarkecounty.com or 706-621-9477 to register.

When reporting your activities, please consult this credit key to determine worth:

- **1BT=1Behavioral Tier activity**
- **1ET=1 Educational Tier activity**
- **pts=POINTS**

June 15, 2012 End of 4th Quarter! Accountability Forms due June 15, 2012!

June

Date	Time	Location	Credit	Subject
Tuesday June 26, 2012	12:30-1:30pm	Planning Department Auditorium *120 W. Dougherty St.*	1ET or 5pts	***How To Select A Gym For Me: Local Gym Option Guidance***— Overwhelmed by gym choices but determined to find one that fits your lifestyle, interests, and schedule? ACC Wellness Coach, Corey Davis, will provide helpful details on Clarke and Oconee fitness facility options to ease your selection process.

July: Fit Fest

Date	Time	Location/Details	Credit	Subject
Wednesday July 11, 2012	5:30-6:30pm	Sandy Creek Park, *400 Bob Holman Road*	1ET or 5pts *(Outdoor Activity)*	***Frisbee Golf Frenzy***— Sneak in exercise by disguising it with a fun hobby that you can do in several parks of this area. ACC Leisure Service's Lou Boestfleisch will teach you how to play this great family/friend activity you can enjoy throughout life! *Dress to be active and bring water! Free for ACC employees, $2.00 for dependents; tell gatehouse attendant you are attending the ACC Healthy Hour.*
Thursdays in July: 12, 19, 26	6:30-7:30am	Bishop Park Pool, *705 Sunset Drive*	5pts for each *(Outdoor Activity), or part of weekly exercise reported*	***Adult Lap Swim***— Dive in and start your morning off right with lap swim at the Bishop Park pool. Participants will enjoy a refreshing swim in the cool morning. Join us for one morning or all three! This program is presented as part of the Leisure Services Department's month-long celebration of National Park and Recreation Month. *Please bring a swimsuit and bring towel. Showers are available, as well as a place for changing.*
Thursday July 12, 2012	1:00-2:00pm	Bishop Park, *705 Sunset Drive*	1ET or 5pts	***Help! My Grandkids Are Coming to Visit!*** The mini-van is heading your way! Get plans in place to keep your visiting grandchildren busy with these fun-filled activities and places to visit within the ACC Leisure Services Department. This program is presented by Leisure Services as part of the month-long celebration of National Park and Recreation Month.
Tuesday July 10, 2012	12:30-1:30pm	Planning Department Auditorium *120 W. Dougherty St.*	1ET or 5pts	***Understanding your GUIDED PORTFOLIO SERVICE (GPS) Statement***--The GPS statement is different from your VALIC statement. If you signed up for the GPS service, then your statements are probably more than a little confusing. This class should clear up the confusion. Feel free to bring your last GPS statement to follow along! ***If you do not currently participate in this service, this would be an appropriate class for you to learn the value of an investment advice program in achieving your retirement goals.***

Tuesday July 17, 2012	1:00-2:00pm	Bear Hollow Zoo at Memorial Park, *293 Gran Ellen Drive*	5pts	***You Belong In The Zoo!***—Enjoy a guided tour of Bear Hollow Zoo and learn about the residents who call it home. Led by zoo staff, learn about the critters, their habits, their diets, and much more. We'll see bears, bobcats, owls…oh my! Wear comfortable shoes. This program is presented as part of the Leisure Services Department's month-long celebration of National Park and Recreation Month.
Wednesday July 18, 2012	1:30-2:30pm	Bobby Snipes Water Resources Center *780 Barber Street*	1ET or 5pts	***Shin Splints & Other Runners' Woes***—Join ACC Wellness Coordinator Kendra Houghton & Wellness Coach Corey Davis to learn how to prevent and manage all sorts of running issues: shin splints, blisters, lower back & knee pain, hamstring tightness, etc.
Thursday July 19, 2012 *No pre-registration necessary*	5:15pm (registration) 5:30 5k begins	Dudley Park *(Park off East Broad Street at the Chicopee Complex parking lot entrance to Dudley Park)*	1BT or 10pts	***July Wellness 5K Walk/Jog***—Enjoy the beautiful, shady environment of our Athens-area Greenway for a nice 3.1 mile jaunt during the hot summer weather. *Friends & family, bikes & rollerblades are welcome! Don't forget your water bottle!* *(If you are unable to attend, view the course on our website the week after 5k is held, and complete on your own time to report the same Wellness credit!)*
Tuesday July 24, 2012	1:00-2:00pm	Sandy Creek Park's Visitor's Center, *400 Bob Holman Road (tell gatehouse attendant you are attending the ACC Healthy Hour)*	1ET or 5pts	***Picnic 101: Ants Not Invited***—ACC Leisure Services staff will lead participants on a tour of picnic options and family fun activities available at Sandy Creek Park for your next gathering. A Sandy Creek Nature Center Naturalist will provide insight into the insects that might prove to be uninvited guests and Denise Everson with Cooperative Extension will offer tips on making a healthy picnic meal. This program is presented as part of the Leisure Services Department's month-long celebration of National Park and Recreation Month.
Tuesday July 24, 2012	5:30-6:30pm	ACC Fitness Center *Dress to exercise!*	1 ET or BT *(your choice)* or 5 pts	***Krazy About Kettlebells***—Been wondering how to use those funky-looking weights? Let Wellness Coaches Corey Davis & Russ Hodsdon show you how to properly use them and provide you with many options for spicing up your training with kettlebells.
Tuesday July 31, 2012	1:00-2:00pm	Lyndon House *293 Hoyt Street*	5 pts *(Life Enrichment)*	***Gallery Tour and Discussion***—Join Lyndon House Arts Center Exhibition Curator for a tour and discussion of this special exhibition on display in the Lower Atrium and Ronnie Lukasiewicz Galleries. This exhibition includes a wide variety of media: honeypots and pottery… paintings and photography… stained glass, blown glass and glass that is fused… jewelry made from silver, beads or paper… hand painted silks, quilted fabrics and collages. This program is presented as part of the Leisure Services Department's month-long celebration of National Park and Recreation Month.
August: Life In The Fast Lane				
Date	Time	Location	Credit	Subject
Wednesday August 1, 2012	12:30-1:30pm	Planning Department Auditorium *120 W. Dougherty Street*	1ET or 5pts	***Creating A Peaceful Oasis In A Sea Of Constant Doing***— Join Michelle Arington, Wellness Director of Samaritan Counseling Center and certified Wellness Consultant and Health Coach, as she shares simple stress reduction and mood management tools that can be applied to your daily life. Through simple mindfulness, yoga and breathing techniques, you can soothe anxiety, lift depression and relieve stress. Increase your energy, clear your mind and eliminate muscle tension and fatigue in this experiential workshop.
Tuesday August 7, 2012	12:30-1:30pm	Planning Department Auditorium *120 W. Dougherty Street*	1ET or 5pts	***Understanding the Roth 457(b) Account***—Join VALIC's David Michaux as he explains features and benefits of after-tax contributions to the Deferred Compensation Plan.
Wednesday August 8, 2012	12:30-1:30pm	Alps Road Kroger *(Meet outside, to the right of the main entrance)*	1ET or 5pts	***Dinner For One***—Tired of resorting to unhealthy take-out meals when dining alone? Wellness Coordinator Kendra Houghton will offer simple suggestions for quick, delicious, & healthy dinner prep without the annoyance of too much expense or leftover food.

Thursday August 9, 2012	5:15pm (registration) 5:30 5k begins *(Course will be marked by 4pm so feel free to come early)*	Satula Avenue *375 Satula Avenue (lower parking lot)*	1BT or 10pts	***August Wellness 5k***—Enjoy a post-work 5k walk/jog through the Boulevard & Prince Avenue district! *Friends & family welcome! Don't forget your water bottle! (If you are unable to attend, view the course on our website, and complete on your own time to report the same Wellness credit!)*
Wednesday August 15, 2012	5:30-6:30pm	ACC Fitness Center	1ET or 5pts	***Focus on Fitness, Not The Scale! Fitness Goal-Based Exercise Routine***—Tired of using the scale to determine your health success? It can be emotionally exhausting to set all of your health goals on weight loss alone. Learn to set specific fitness goals, develop an exercise routine, and accomplish weight/inch improvement & other healthy successes through a rejuvenated focus! Wellness Coaches Corey Davis & Caroline Beegle will enlighten you on how to do this.
Wednesday August 22, 2012	12:30-1:30pm* *Lunch served*	Streets & Drainage Division *(605 Spring Valley Road)*	1ET or 5pts	***Is It OK To Eat Fish?****—Cooperative Extension's Denise Everson will explain the truths & myths about fish consumption, the health benefits of seafood, and offer healthy & delicious ways to prepare fish at home.
Wednesday August 29, 2012	1:30-2:30pm	Satula Avenue Training Room *375 Satula Avenue*	1 ET or 5pts	***Experience Pilates***—Amanda Martin, certified Pilates instructor and owner of the local Balance Studio, will enlighten you on the health benefits of regular Pilates practice: injury prevention, recovery, osteoporosis care, balance, weight management, etc. *Come dressed to practice Pilates!*
Thursday August 30, 2012	1:30-2:30pm	Water Business Office Customer Service Training Room *124 E. Hancock Ave.*	1ET or 5pts	***Short On Time? Worth-It Fitness In 30 Minutes Or Less***—Let Wellness Coordinator Kendra Houghton & her staff inspire you with tactics for doing major calorie-burning exercise and cleaning up quickly. No need for hours of running or time away from your family/responsibilities; you can accomplish just as much if not more in a shorter amount of time if intensity is involved.

September: Clean & Lean, Healthy Fueling

Walk-a-Weigh weight management program will be offered September through November; Details will be sent via ACC email.
Drop-in **PSA/DRE Screening** will be offered at the ACC Streets & Drainage Dept. this month, open to all ACC employees & retirees.
Details will be available via ACC email and www.athensclarkecounty.com/wellness when scheduled.

Date	Time	Location	Credit	Subject
Wednesday September 5, 2012	11:00-12:00pm* and 12:30-1:30pm* *Lunch served*	Satula Avenue Training Room *375 Satula Avenue*	1ET or 5pts	***Choose My Plate****—ARMC Community Health Education Department has become a Community Partner with the U.S. Department of Agriculture to help inform the general public about the Dietary Guidelines for Americans. This class was developed to help teach individuals more about the most healthy choices in each food category, how much food they should be eating to maintain or lose weight, what healthy portion sizes are, etc.
Tuesday September 11, 2012	12:30-1:30pm	Planning Department Auditorium *120 W. Dougherty Street*	1ET or 5pts	***Understanding Your Quarterly VALIC Statement***—Join VALIC's David Michaux to reduce your confusion and gain a better handle on that deferred compensation statement you receive each quarter.
Wednesday September 12, 2012	12:30-1:30pm *Samples will be served*	Lay Park Community Room *297 Hoyt Street*	1ET or 5pts	***Made From Scratch, Simple & Locally Grown: Fall Foods***—ACC Planner Craig Page will emphasize healthy recipes, simple techniques, and easy variations to utilize the fresh flavors of local, seasonal produce through a live cooking demonstration & tasting. Learn to easily prepare delicious produce you were timid to try before, plus where to find it locally!
Thursday September 13, 2012 *No pre-registration necessary*	5:15pm (registration) 5:30pm 5k begins *(Course will be marked by 4pm so feel free to come early)*	Memorial Park, *293 Gran Ellen Drive (Meet down the hill at the covered pavilion near the pond)*	1BT or 10pts	***September Wellness 5k Walk/Jog***—Walk or jog through the charming Memorial Park and 5 Points neighborhood area. *Friends & family are welcome! Don't forget your water bottle! (If you are unable to attend, view the course on our website one week after the 5k is held, and complete on your own time to report the same Wellness credit!)*

Wednesday September 19, 2012	12:30-1:30pm	Lyndon House *293 Hoyt Street*	1ET or 5pts	***Quick, Easy, & Healthy Breakfasts***—No time to eat right first thing in the morning? UGA Dietetic Masters students will offer many suggestions for grabbing convenient, healthy foods to get you on track for the day.
Tuesday September 25, 2012	5:30-6:30pm	Earthfare Grocery *1689 S. Lumpkin St.; meet outside in the eating area*	1 ET or 5pts	***Cleanse Confusion Clear-Up***—Commercial/natural cleanses for the colon, for weight loss purposes, for overall detoxification, etc.: what's fact & what's a ploy? Earthfare's Education Specialist will tour you through the cleanse section to discuss options, pros & cons, & best bets, as well as cleansing your body naturally.
Wednesday September 26, 2012	12:30-1:30pm	Eastside Police Department Training Room *3035 Lexington Road*	1 ET or 5pts	***Cool Season Gardening***—Many gardeners have a warm season garden with crops such as tomatoes, cucumbers and corn but have you considered having a cool season market as well? Join Cooperative Extension's Amanda Tedrow for this healthy hour to discuss tips and techniques for growing cool season crops such as lettuce, collards, broccoli, and carrots during the fall and winter.
September 30, 2012 End of 1st Quarter! Accountability Forms due October 10!				
October: Breast Cancer & Female Health Month				
Program contests available this month: *Boot Camp (Fitness) Challenge & Pounds Are Fallin' Weight Loss Challenge*. Details will be distributed via ACC email and www.athensclarkecounty.com/wellness. **Flu Vaccination clinics** will also be available this month. Clinic schedule will be available early fall on the webpage listed above.				
Date	Time	Location	Credit	Subject
Wednesday October 3, 2012	12:30-1:30pm* *Lunch served*	Satula Avenue Training Room *375 Satula Avenue*	1 BT or 10pts	***Heckling Headaches****—Dr. Janet Griffin, internal medicine specialist with Reddy Medical Group, will share her knowledge on the many causes and symptoms of headaches to help you get to the bottom of these pesky, health-compromising annoyances before they contribute to greater issues.
Thursday October 4, 2012 *No pre-registration necessary*	12:00noon (registration) 12:15pm 5k begins	Bishop Park *705 Sunset Drive (Meet at the pavilion, near the gymnastics facility to the rt.)*	1BT or 10pts	***October Wellness 5k Walk/Jog***—Join us for a lunch-time 5k exploring the Prince Avenue & Cobbham district. *Friends & family are welcome! Don't forget your water bottle! (If you are unable to attend, view the course on our website and complete on your own time to report the same Wellness credit!)*
Wednesday October 10, 2012	12:30-1:30pm	Bobby Snipes Water Resources Center *780 Barber Street*	1ET or 5pts	***Soy Saga***—UGA Dietetic interns will present you with current research and guidance on soy: what it is, products available, potential health benefits (cholesterol- and weight management-related), precautions to take, potential side effects, etc.
Tuesday, Wednesday, Thursday, Friday October 16, 17, 18, 19, 2012	Appointments available all day (9am-3:00pm): Registration required *(see description)*	Satula Avenue Building lower parking lot *375 Satula Avenue*	1BT or 15pts	***Mobile Mammography***—Mammograms with ARMC mobile unit. *Eligible participants: females over 40 years of age, who have had a physical within the last year, whose last mammogram was in October 2011 or before, and who have no history of issues detected. Please check with your physician about scheduling with the mobile unit.* To register, email wellnessteam@athensclarkecounty.com or call 706-621-9477.
Wednesday October 24, 2012	12:30-1:30pm	Lyndon House *293 Hoyt Street*	1ET or 15 pts	***Fiber: The Whole Story***—Oh, the benefits of fiber intake! Digestion aid, cholesterol & blood sugar reduction, and much more. Cooperative Extension agent Denise Everson will teach you all about fiber and how to fit more into your diet.
November: Chronic Disease Management				
Date	Time	Location	Credit	Subject
Friday November 2, 2012	1:00-2:00pm	Satula Avenue *375 Satula Avenue*	1ET or 5pts	***Arthritis Education & Assistance***—Arthritis Foundation's Georgia Program & Services Director Ayana Charleston will fill you in on prevention of, management of, and services available for those with all types of arthritis.
Wednesday November 7, 2012	12:30-1:30pm* *Lunch served*	Water Business Office Customer Service Training Room *124 E. Hancock Ave.*	1ET or 5pts	***Diabetes & Depression****—Depression is a true threat to diabetics, and can complicate management of the disease. Denise Everson, Cooperative Extension agent, will teach you what warning signs to look for and provide you with helpful resources for keeping this condition from harming your control of blood sugar and other diabetes-related issues.

Wednesday November 8, 2012 *No pre-registration necessary*	4:00pm (registration) 4:15pm 5k begins *(Begins early because darkness will arrive early!)*	Fire Station #7 *2390 Barnett Shoals Road*	1BT or 10pts	***Wellness 5k Walk/Jog***—Enjoy the hoppin' Athens Eastside in a late afternoon 5k! Don't forget your water bottle, and feel free to bring friends & family members *(If you are unable to attend, view the course on our website, and complete on your own time to report the same Wellness Credit!)*
Wednesday November 14, 2012	12:30-1:30pm *Samples will be served*	Lay Park Community Room *297 Hoyt Street*	1ET or 5pts	***Made From Scratch, Simple & Locally Grown: Winter Foods***—ACC Planner Craig Page will emphasize healthy recipes, simple techniques, and easy variations to utilize the fresh flavors of local, seasonal produce through a live cooking demonstration & tasting. Learn to easily prepare delicious produce you were timid to try before, plus where to find it locally!
Wednesday November 28, 2012	12:30-1:30pm	Eastside Police Department Training Room *3035 Lexington Road*	1ET or 5pts	***Food Flavorings Without The Additional Calories***—Think food has to be bland in order to be healthy? Think again! Join UGA Dietetic interns for some enlightenment on flavoring your food without adding much/any cholesterol, sugar, salt, and fat.
December: Healthy Family Celebration				
Date	Time	Location	Credit	Subject
Tuesday December 4, 2012	12:30-1:30pm* *Lunch served*	Mall/Westside Police Precinct *(at the back of the Georgia Square Mall)*	1ET 5pts	***No-Cost Eldercare Referral Assistance***—In honor of Grandparent's Day, "A Place For Mom" Eldercare Referral Service advisors will provide you with guidance and resources to help you properly care for elderly parents with minimal stress.
Wednesday December 5, 2012	12:30-1:30pm	Streets & Drainage Division *(605 Spring Valley Road)*	1ET or 5pts	***Controlling Diabetes During The Holidays***—Assume that holidays will automatically destroy your blood sugar management (or that of a family member)? Let Cooperative Extension's Denise Everson guide you through a healthy plan for staying on track but still enjoying the holiday season and all of the treats it brings!
Thursday December 6, 2012 *No pre-registration necessary*	5:15pm (registration) 5:30pm 5k begins	Courthouse *(meet in pavilion between courthouse & parking deck)*	1BT or 10pts	***December Wellness 5k Walk/Jog***—Complete a 5k through downtown Athens…the most holiday-decorated area in town! *(If you are unable to attend, view the course on our website the week following our event, and complete on your own time to report the same Wellness Credit!)*
December 31, 2012 End of 2nd Quarter! Accountability Forms due January 10!				

*Classes noted with * indicate a meal (lunch or snack) will be provided for those attending. Otherwise, you should plan to bring your meal or eat at another time. Beverages will not be provided: please bring your own healthy beverage!

All healthy hour classes are subject to change.

Check out www.athensclarkecounty.com/wellness for changes or updates, as well as additional resources and offerings throughout the year.

APPENDIX C:

CONSENT LETTER AND QUESTIONNAIRE

ACC Participant Script

Some of you may know me as a former employee, but I am not here as an employee today.

As some of you may know, I am pursuing my PhD from the University of Georgia, and ACC has granted me permission to recruit you for my dissertation study. My research interests are rooted in employee health in the workplace.

I have gone to great lengths to make sure that all parties are protected and that you remain anonymous. I will be providing a final report to ACC, but at no time will any participant be identifiable by ACC or myself. Your responses cannot be traced back to you.

I appreciate your time and have tried to make the process as convenient as possible while also providing gift cards for completed surveys. If you take a survey today, please follow the instructions for completion, submission and retrieval of your gift card.

There is absolutely no requirement to participate nor will you be penalized in any way for participation or non-participation.

Dear ACC Employee,

You are invited to participate in a research survey about your everyday workplace experience. The survey is intended to evaluate the relationship between work life and employee well-being. The survey will take approximately 15 minutes to complete.

Your participation is voluntary; you may refuse to participate or stop participating at any time without penalty or loss of benefits to which you are otherwise entitled. You may skip any questions you do not want to answer. The results of this participation will be confidential with indirect identifiers (a Participant ID will be used for incentive disbursement), and will not be released in any individually identifiable form, unless otherwise required by law. Data will be stripped of all individual identifiers. Data will be stored on a secure computer in a locked office, and only members of the research team will have access to the data. Formal reporting to ACC and further presentations/publications will be based on the entire sample and in a group rather than individual format. All demographic data (gender, age, race, etc.) will be collected separate from the survey and will be used to describe the sample only. The ACC Human Resources Department has assured me that there will not be any negative repercussions for individuals, or ACC employees as a group, based upon the results of the study.

Measures have been taken to decrease any anticipated risks regarding discomfort and/or breach of confidentiality. There are no anticipated direct benefits to you from this survey. Participants will receive a $5 gift card for their time and attention to the study at a later date to be announced. At the time of incentive disbursement, a signature will be required as verification for incentive receipt and will only be shared with the UGA business department.

CONTACT INFORMATION:
Questions, Concerns, or Complaints: If you have any questions, concerns or complaints about this survey, its procedures, risks and benefits, you should ask the Principal Investigator, Dr. David DeJoy, at dmdejoy@uga.edu or Aimee Grigsby, at agrig@uga.edu or (706) 540-3711.

If you would like to continue on with the survey, please remove this form for your records and to obtain your $5 gift card at a later date.

Participant ID: Your participant ID will be used to verify participation at the time of incentive disbursement. Your ID will be composed of your birth year and the first two letters of your mother's first name. Please write your participant ID down on this form in the space provided below.

PARTICIPANT ID:

Your Birth Year: _____ _____ _____ _____

First 2 Letters of your Mother's First Name: _____ _____

REMOVE and RETAIN

this sheet as proof of participation

when picking up your gift card.

Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 629 Boyd Graduate Studies Research Center, Athens, Georgia 30602; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu

Participant Survey

Participant ID: Your participant ID will be used to verify participation at the time of incentive disbursement. Your ID will be composed of your birth year and the first two letters of your mother's first name. Please write your participant ID down in the space provided below.

PARTICIPANT ID:

Birth year: _____ _____ _____ _____

First 2 Letters of your Mother's First Name: _____ _____

SURVEY INSTRUCTIONS

- You must be 18 years of age or older to complete this survey.
- You must be a full-time employee of Athens-Clarke County Unified Government.
- Think carefully and be honest with your responses; they will be kept confidential.
- Please answer each question to the best of your ability with the options provided.

Section A

Please respond to each question in terms of how it applies to your current job at ACC.
For the following questions, please mark your response with a ✓

1) Do you know where you stand with your supervisor …do you usually know how satisfied your supervisor is with what you do?

- ☐ Rarely
- ☐ Occasionally
- ☐ Sometimes
- ☐ Fairly often
- ☐ Very often

2) How well does your supervisor understand your job problems and needs?

- ☐ Not a bit
- ☐ A little
- ☐ A fair amount
- ☐ Quite a bit
- ☐ A great deal

3) How well does your supervisor recognize your potential?

- ☐ Not at all
- ☐ A little
- ☐ Moderately
- ☐ Mostly
- ☐ Fully

Section A Continued

4) Regardless of how much formal authority he/she has built into his/her position, what are the chances that your supervisor would use his/her power to help you solve problems in your work?

- ☐ None
- ☐ Small
- ☐ Moderate
- ☐ High
- ☐ Very high

5) Again, regardless of the amount of formal authority your supervisor has, what are the chances that he/she would 'bail you out' at his/her expense?

- ☐ None
- ☐ Small
- ☐ Moderate
- ☐ High
- ☐ Very high

6) I have enough confidence in my supervisor that I would defend and justify his/her decision if he/she were not present to do so.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

7) How would you characterize your working relationship with your supervisor?

- ☐ Extremely ineffective
- ☐ Worse than average
- ☐ Average
- ☐ Better than average
- ☐ Extremely effective

Section B

Please respond to each question in terms of how it applies to your current job at ACC.
For the following questions, please CIRCLE your response:

1 = Always 2 = Often 3 = Sometimes 4 = Never

8	Do you have freedom in carrying out your work activities?	1	2	3	4
9	Do you have influence in the planning of your work activities?	1	2	3	4
10	Do you have influence on the pace of work?	1	2	3	4
11	Can you decide how your work is executed on your own?	1	2	3	4
12	Can you interrupt your work for a short time if you find it necessary to do so?	1	2	3	4
13	Can you decide the order in which you carry out your work on your own?	1	2	3	4
14	Can you participate in the decision about when something must be completed?	1	2	3	4
15	Can you personally decide how much time you need for a specific activity?	1	2	3	4
16	Do you resolve problems arising in your work yourself?	1	2	3	4
17	Can you organize your work yourself?	1	2	3	4
18	Can you decide on the content of you work activities yourself?	1	2	3	4
19	Can you count on your co-workers when you encounter difficulties in your work?	1	2	3	4
20	If necessary, can you ask your co-workers for help?	1	2	3	4
21	Do you get along with your co-workers?	1	2	3	4
22	Do you have conflicts with your co-workers?	1	2	3	4
23	In your work, do you feel appreciated by your co-workers?	1	2	3	4
24	Are your co-workers friendly towards you?	1	2	3	4
25	Is there a good atmosphere between you and your co-workers?	1	2	3	4
26	Have there been any unpleasant occurrences between you and your co-workers?	1	2	3	4

Section C

Please respond to each statement in terms of how it applies to your current job at ACC. Please CIRCLE the appropriate box to indicate your level of satisfaction for the following statements:

1 = Very dissatisfied
2 = Somewhat dissatisfied
3 = Neither satisfied nor dissatisfied
4 = Somewhat satisfied
5 = Very satisfied

27	The way you divide your time between work and personal or family life.	1	2	3	4	5
28	The way you divide your attention between work and home.	1	2	3	4	5
29	How well your work life and your personal or family life fit together.	1	2	3	4	5
30	Your ability to balance the needs of your job with those of your personal or family life.	1	2	3	4	5
31	The opportunity you have to perform your job well and yet be able to perform home-related duties adequately.	1	2	3	4	5

Section D

Please respond to each question in terms of how it applies to your current job at ACC.
For the following questions, please CIRCLE your response:

1 = Never
2 = Almost Never
3 = Sometimes
4 = Fairly Often
5 = Very Often

32	In the last month, how often have you been upset because of something that happened unexpectedly at work?	1	2	3	4	5
33	In the last month, how often have you felt that you were unable to control the important things at work?	1	2	3	4	5
34	In the last month, how often have you felt nervous and stressed because of work?	1	2	3	4	5
35	In the last month, how often have you found that you could not cope with all the things you had to do at work?	1	2	3	4	5
36	In the last month, how often have you been angered because of things that had happened at work that were outside of your control?	1	2	3	4	5
37	In the last month, how often have you felt that difficulties at work were piling up so high that you could not overcome them?	1	2	3	4	5

Section E

Please respond to each question in terms of how it applies to your current job at ACC.
For the following questions, please CIRCLE your response:

1 = Always 2 = Often 3 = Sometimes 4 = Never

38	Do you feel you have to work very fast?	1	2	3	4
39	Do you feel you have too much work to do?	1	2	3	4
40	Do you feel you have to work extra hard in order to complete something?	1	2	3	4
41	Do you feel you work under time pressure?	1	2	3	4
42	Do you feel you have to hurry?	1	2	3	4
43	Can you do your work with ease?	1	2	3	4
44	Do you find that you are behind in your work activities?	1	2	3	4
45	Do you find that you do not have enough work?	1	2	3	4
46	Do you have problems with the work pace?	1	2	3	4
47	Do you have problems with the work pressure?	1	2	3	4
48	Would you prefer a calmer work pace?	1	2	3	4
49	Are you confronted with things that affect you personally in your work (things that are emotionally sensitive)?	1	2	3	4
50	Do others call on you personally in your work (for advice/counsel, to vent/complain, etc.)?	1	2	3	4
51	Do you feel personally attacked or threatened in your work?	1	2	3	4
52	Do you have contact with difficult clients or customers in your work?	1	2	3	4
53	In your work, do you have to be able to convince or persuade people?	1	2	3	4
54	Does your work put you in emotionally upsetting situations?	1	2	3	4

Section F

Please respond to each question in terms of how it applies to your current job at ACC.
For the following questions, please CIRCLE your response:

1 = All of the time
2 = Most of the time
3 = Some of the time
4 = A little of the time
5 = None of the time

55	How often was your performance higher than most workers on your job?	1	2	3	4	5
56	How often was your performance lower than most workers on your job?	1	2	3	4	5
57	How often did you do no work at times when you were supposed to be working?	1	2	3	4	5
58	How often was the quality of your work lower than it should have been?	1	2	3	4	5
59	How often did you not concentrate enough on your work?	1	2	3	4	5
60	How often did health problems limit the kind or amount of work you could do?	1	2	3	4	5
61	I feel left out on activities and meetings that could enhance my career.	1	2	3	4	5
62	I miss out on opportunities to be mentored.	1	2	3	4	5
63	I feel out of the loop.	1	2	3	4	5
64	I miss face-to-face contact with coworkers.	1	2	3	4	5
65	I feel isolated.	1	2	3	4	5
66	I miss the emotional support of coworkers.	1	2	3	4	5
67	I miss informal interaction with others.	1	2	3	4	5

68) In general, would you say your health is:

- ☐ Poor
- ☐ Fair
- ☐ Good
- ☐ Very good
- ☐ Excellent

Section G			
The following questions are about activities you might do during a typical day. Does your health <u>NOW</u> limit you in these activities? If so how much? **Please mark your response with a ✓**			
	Yes, limited a lot	Yes, limited a little	No, not limited at all
69) Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf			
70) Climbing several flights of stairs			

During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health? **Please mark your response with a ✓**					
	All of the time	Most of the time	Some of the time	A little of the time	None of the time
71) Accomplished less than you would like					
72) Were limited in the kind of work or other activities					

Section H					
During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as result of any emotional problems (such as feeling depressed or anxious)? **Please mark your response with a ✓**					
	All of the time	Most of the time	Some of the time	A little of the time	None of the time
73) Accomplished less than you would like					
74) Did work or activities less carefully than usual?					

These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling How much of the time during the past 4 weeks… **Please mark your response with a ✓**					
	All of the time	Most of the time	Some of the time	A little of the time	None of the time
75) Have you felt calm and peaceful?					
76) Did you have a lot of energy?					
77) Have you felt downhearted and depressed?					

Section I

For the following questions, please mark your response with a ✓

78) During the past 4 weeks, how much did pain interfere with you normal work (including both work outside the home and housework)?

- ☐ Not at all
- ☐ A little bit
- ☐ Moderately
- ☐ Quite a bit
- ☐ Extremely

79) During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?

- ☐ None of the time
- ☐ A little of the time
- ☐ Some of the time
- ☐ Most of the time
- ☐ All of the time

80) Please indicate your level of participation in the ACC Wellness Program?

- ☐ Non-participant / Never Participated
- ☐ Previously Participated
- ☐ Current Participation in Well Points Program
- ☐ Current Participation in Wellness Tier Program
- ☐ Current Participation in Well Points and Wellness Tier Program

81) If you are currently participating in one or both of the Wellness Programs, please indicate how long you have been participating? <u>Check all that apply.</u>			
	0-6 months	6-12 months	More than 12 months
Well Points			
Wellness Tier			
Well Points AND Wellness Tier			

Section J

Please respond to each question in terms of how it applies to your <u>current job at ACC.</u>

For the following questions, please <u>CIRCLE</u> your response:

1 = Never
2 = Almost Never
3 = Rarely
4 = Sometimes
5 = Often
6 = Very Often
7 = Always

82	At my work, I feel bursting with energy.	1	2	3	4	5	6	7
83	At my job, I feel strong and vigorous.	1	2	3	4	5	6	7
84	I am enthusiastic about my job.	1	2	3	4	5	6	7
85	My job inspires me.	1	2	3	4	5	6	7
86	When I get up in the morning, I feel like going to work.	1	2	3	4	5	6	7
87	I feel happy when I am working intensely.	1	2	3	4	5	6	7
88	I am proud of the work that I do.	1	2	3	4	5	6	7
89	I am immersed in my work.	1	2	3	4	5	6	7
90	I get carried away/energized when I am working.	1	2	3	4	5	6	7

Demographic Questionnaire

Your confidentiality is my top priority. For this reason, these demographic questions will be kept separate from your survey responses. This information will ONLY be used to describe the demographic profile of the sample.

For example: 30% of the sample was female OR The Leisure Services Dept. represented 12% of the sample.

Please mark your response with a ✓

1) What ACC department/division do you work for? Check all that apply.

- ☐ Animal Control
- ☐ Athens-Ben Epps Airport
- ☐ Attorney's Office
- ☐ Auditor's Office
- ☐ Board of Elections
- ☐ Building Permits & Inspections
- ☐ Central Services
- ☐ Clerk of Commission
- ☐ Clerk of Superior & State Courts
- ☐ Community Protection Division
- ☐ Computer Information Services
- ☐ Cooperative Extension
- ☐ Coroner
- ☐ Corrections
- ☐ District Attorney
- ☐ Engineering
- ☐ Facilities
- ☐ Finance
- ☐ Fire & Emergency Services
- ☐ Human & Economic Development
- ☐ Human Resources
- ☐ Juvenile Court
- ☐ Leisure Services
- ☐ Magistrate Court Home
- ☐ Manager's Office
- ☐ Mayor
- ☐ Meter Management
- ☐ Municipal Court
- ☐ Organizational Development
- ☐ Planning Department
- ☐ Police
- ☐ Probate Court
- ☐ Probation Services
- ☐ Public Information Office
- ☐ Public Utilities
- ☐ Sheriff
- ☐ Solicitor General's Office
- ☐ Solid Waste
- ☐ State Court
- ☐ Streets & Drainage
- ☐ Superior Court
- ☐ Tax Assessor
- ☐ Tax Commissioner
- ☐ Transit
- ☐ Transportation & Public Works
- ☐ Water Business
- ☐ Water Conservation
- ☐ Water Reclamation
- ☐ Water & Sewer
- ☐ Water Treatment
- ☐ Other (Please Specify):_____

2) How long have you been with this department?_____

3) How long have you been with ACC? _____

4) What is your gender?

- ☐ Male
- ☐ Female

5) What is your age range?

- ☐ 18 - 24 years
- ☐ 25 - 30 years
- ☐ 31 - 35 years
- ☐ 35 - 40 years
- ☐ 41 - 50 years
- ☐ 51 - 60 years
- ☐ Over 60 years

6) What is your marital status?

- ☐ Now married
- ☐ Widowed
- ☐ Divorced
- ☐ Separated
- ☐ Never married

7) What is the highest degree or level of school you have completed? If currently enrolled, mark the previous grade or highest degree received.

- ☐ Some high school
- ☐ High school graduate or GED
- ☐ Some college or technical/vocational training
- ☐ Associate degree (2 years)
- ☐ Bachelor degree (4 years)
- ☐ Postgraduate work
- ☐ Postgraduate degree (e.g., master's degree)

8) What is your total household income?

- ☐ Less than $10,000
- ☐ $10,000 to $19,999
- ☐ $20,000 to $29,999
- ☐ $30,000 to $39,999
- ☐ $40,000 to $49,999
- ☐ $50,000 to $59,999
- ☐ $60,000 to $69,999
- ☐ $70,000 to $79,999
- ☐ $80,000 to $89,999
- ☐ $90,000 to $99,999
- ☐ $100,000 to $149,999
- ☐ $150,000 or more

9) Please specify your ethnicity.

- ☐ Hispanic or Latino
- ☐ Not Hispanic or Latino

10) Please specify your race.

- ☐ Black or African American
- ☐ Caucasian
- ☐ Other
- ☐ Declined
- ☐ Unavailable/Unknown

11) Which of the following best describes your role in ACC? Please check all that apply

- ☐ Supervisor
- ☐ Administrator
- ☐ Department Director
- ☐ Administrative staff
- ☐ Support staff
- ☐ Trained professional
- ☐ Skilled laborer
- ☐ Consultant
- ☐ Contract
- ☐ Temporary/seasonal employee
- ☐ Researcher
- ☐ Other:_____

12) Please indicate the hours that you <u>CURRENTLY</u> work:_____
(Example: 7:30am to 3:30pm or first shift)

Thank you so much for completing my survey!!

APPENDIX D:

JOB DEMAND & JOB RESOURCE FACTOR LOADINGS

Job Demands Structure Matrix Factor Loadings

	Factor		
	1	2	3
Q27	**.894**	.045	.058
Q28	**.892**	.009	.061
Q29	**.887**	-.248	.100
Q30	**.889**	-.101	.177
Q31	**.887**	.196	.006
Q38	.177	**.700**	-.009
Q39	.031	**.744**	-.160
Q40	-.109	**.738**	-.133
Q41	.126	**.761**	-.166
Q42	.205	**.794**	-.053
Q43	-.035	**-.374**	.022
Q44	.115	**.493**	.087
Q45	.106	**.415**	.003
Q46	.338	**.550**	.402
Q47	.306	**.670**	.158
Q48	.252	**.483**	.033
Q49	-.035	.155	**.642**
Q50	.020	.056	**.362**
Q51	.190	.172	**.507**
Q52	.003	.023	**.455**
Q53	.121	.004	**.496**
Q54	.069	.015	**.722**

Extraction Method: Principal Axis Factoring.
Rotation Method: Promax with Kaiser Normalization.
Rotation converged in 4 iterations.
Factor 1: Work-Life Balance
Factor 2: Workload
Factor 3: Emotional Demands

Job Resources Structure Matrix Factor Loadings

	Factor		
	1	2	3
Q8	**.598**	.008	.130
Q9	**.708**	.036	-.052
Q10	**.734**	-.026	.144
Q11	**.764**	.008	.072
Q12	**.635**	-.006	.089
Q13	**.817**	-.134	-.106
Q14	**.782**	.034	.004
Q15	**.814**	.109	.036
Q16	**.630**	-.011	.128
Q17	**.716**	-.169	.154
Q18	**.748**	.143	.090
Q1	.216	**.731**	-.033
Q2	.005	**.764**	-.063
Q3	.142	**.770**	.002
Q4	.146	**.733**	.117
Q6	.180	**.724**	.018
Q7	-.099	**.841**	.124
Q19	.108	.145	**.655**
Q20	.135	.158	**.653**
Q21	-.171	-.143	**.794**
Q23	-.058	.005	**.638**
Q24	-.183	.179	**.819**
Q25	.103	.121	**.810**
Q22	.009	.032	**.307**
Q26	.047	-.167	**.345**

Extraction Method: Principal Axis Factoring.
Rotation Method: Promax with Kaiser Normalization.
Rotation converged in 5 iterations.
Factor 1: Autonomy
Factor 2: Leader-Member Exchange
Factor 3: Social Support