University of San Diego
Digital USD

Dissertations

Theses and Dissertations

2019-05-19

Employee Engagement and Burnout: A Quantitative Study of their Correlations with Job/ Organizational Satisfaction

Sarah Burnett
University of San Diego

Follow this and additional works at: https://digital.sandiego.edu/dissertations

Part of the Organizational Behavior and Theory Commons

EMPLOYEE ENGAGEMENT AND BURNOUT:
A QUANTITATIVE STUDY OF THEIR CORRELATIONS WITH
JOB/ORGANIZATIONAL SATISFACTION

by

Sarah Rachel Burnett

A dissertation submitted in partial fulfillment
of the requirements for the degree of

Doctor of Philosophy

May 2019

Dissertation Committee

Fred J. Galloway, Ed.D.
Marcus Lam, Ph.D.
Stephanie Hszieh, Ph.D.

University of San Diego

University of San Diego
School of Leadership and Education Sciences

CANDIDATE'S NAME: Sarah Rachel Burnett

TITLE OF DISSERTATION: Employee Engagement and Burnout: A Quantitative Study
of Their Correlations with Job/Organizational Satisfaction

APPROVAL:

_____, Co-Chair
Fred J. Galloway, EdD

_____, Co-Chair
Marcus Lam, PhD

_____, Member
Stephanie Hszieh, PhD

DATE: May 6, 2019

ABSTRACT

Since Kahn introduced the concept of employee engagement in 1990, the focus on motivating employees has been en vogue in practitioner literature. The federal government as well now measures its agencies annually on how well they implement conditions conducive to engagement. Federal agencies are also ranked annually as "Best Places to Work" based on their aggregated score on three survey items deemed to represent job/organizational satisfaction. The concept of burnout, or the so-called "erosion of engagement", however, has received significantly less attention. To begin to fill this void in the literature, secondary survey data from the 2017 Organizational Assessment Survey administered to the Space and Naval Warfare Systems Command (SPAWAR) in San Diego, California was examined. Specifically, the focus of this study was the Headquarters (HQ)/Program Executive Office (PEO) survey, for which 870 out of 1111 military and civilian personnel responded for an overall response rate of 78%.

Using factor analytic techniques on the 122 survey items, this study first identified groupings of survey items to construct a potential burnout index, and a sufficiently high Cronbach's Alpha confirmed the internal consistency of the resultant burnout index. The study then examined demographic differences in employees' perceptions of burnout, engagement conditions, and job/organizational satisfaction. Finally, regression analysis was used to test whether burnout moderates the relationship between engagement conditions and job/organizational satisfaction.

Demographic variables such as HQ organizational code, age, tenure, and intent to leave were significant predictors. While results indicated burnout does not have a significant interaction effect with engagement conditions on job/organizational

satisfaction for the overall SPAWAR HQ/PEO workforce, the moderating interaction was detected for one of its HQ organizational codes.

   The results of this research will help those federal agencies directed to spend time, effort and taxpayer dollars to increase employee engagement. The study's significance lies in its potential to contribute to the understanding of burnout as a potential moderator of employee engagement.

DEDICATION

This dissertation is dedicated to my daughter Tamara who was in my belly the day I applied for the program and has been by my side the entire time. It is also dedicated to two angels – to my forever-beloved son Q and to Ray Coronado – may they rest in peace. Lastly, it is dedicated to my demons, which have served as catalysts for my continual journey of self-discovery and self-improvement.

ACKNOWLEDGMENTS

Lastly, I said I would do this, so I am keeping my word...Thank you to Chuck E. Cheese..."where a kid can be a kid" and working mom can be a doctoral student. I was eight months pregnant when I was accepted into this program, and I learned over the years to get my studies done whenever and wherever I could....so here's to you Chuck E!

.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION TO THE STUDY

Since Kahn (1990) first introduced the concept of employee engagement or the

"harnessing of organizational members' selves to their work role…physically,

cognitively, and emotionally" (p. 692), the focus on what it takes to motivate employees

has been *en vogue* in practitioner literature. For example, in his best-selling book, Drive,

Pink (2009) argues that managers outdated beliefs about motivation need to change if

managers want to free themselves and their organizations from their many chronic

problems. Likewise, in academia, there is "an emerging trend towards a 'positive

psychology' that focuses on human strengths and optimal functioning rather than on

weaknesses and malfunctioning" (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002,

p. 72). Conversely, the concept of *burnout*, or the so-called "erosion of engagement"

(Schaufeli & Bakker, 2004, p. 294), receives significantly less attention.

Evolution of Work Theory

Frederick Taylor's principles of scientific management "provided the cornerstone

of work design throughout the first half of the twentieth century" (Morgan, 2006, p. 23).

These principles included: (1) shifting all responsibility for the organization of work from

the worker to the manager; (2) using scientific methods to determine the most efficient

way of doing work; (3) selecting the best person to perform the designed job; (4) training

workers to do work efficiently; and (5) monitoring work performance to ensure

prescribed processes are followed and resultant efficiency achieved (Morgan, 2006).

Highly standardized products constitute the work to be done by workers, with thinking

left to the managers overseeing them. This "principle of separating the planning and

design of work from its execution is often seen as the most pernicious and far-reaching

element of Taylor's approach to management" (Morgan, 2006,

p. 25). The design of organizations and workplaces was viewed as a technical problem,

where managers' primary responsibilities were to control and direct employees in their

work.

The resultant *machine metaphor* had workplaces that were "designed and

operated as if they were machines…[and] we tend to expect them to operate as machines

in a routinized, efficient, reliable, and predictable way" (Morgan, 2006, p. 13). One of

the possible downsides of the machine metaphor is that it "can have dehumanizing effects

upon employees, especially those at the lower levels of the organizational hierarchy"

(Morgan, 2006, p. 28). In response, Elton Mayo (1933) conducted what is now referred

to as the Hawthorne Studies at Chicago's Hawthorne Plant of the Western Electric

Company in the 1920s and 1930s. These studies initially investigated the relation of

worker fatigue and boredom with the conditions of work. What surfaced was the

importance of work groups in satisfying the social needs in the workplace. Formal

design of work activities began to relinquish center stage to such concepts as work

motivation and interpersonal relations. "A new theory of organization began to emerge,

built on the idea that individuals and groups, like biological organisms, operate most

effectively only when their needs are satisfied" (Morgan, 2006, p. 35). Subsequently, the

integration of individual and organizational needs gained prominence in workplace

theory. Organizational psychologists, such as Douglas McGregor (1960), advocated for

the modification of bureaucratic structures, leadership styles, and work organizations into

more enriched motivators for the exercise of individual control and creativity. This was

in stark contrast to the tenets of scientific management and the machine metaphor of work and workplaces.

Distinctions were made between the emphases placed on efficiency per the machine metaphor versus on overall organizational effectiveness. The latter is central to more contextual, open-systems oriented metaphors that subsequently emerged. According to Pfeffer and Salancik (1978), whereas efficiency is an "internal standard of performance," organizational effectiveness is "an external standard of how well an organization is meeting the demands of the various groups and organizations that are concerned with its activities" (p. 525). Included among these various groups are workers themselves, thus giving rise to the concept of participatory or participative management. In his law review article on participatory management schemes, Lipsky (1990) differentiates between quality control circles and quality-of-work life groups or programs, which instead "focus primarily on the work environment" (p. 674). "The main focus of these schemes is to improve the employees' perception of the work environment and to allow the individual workers to have limited quantum of control over their environment. Through this scheme, employers should be able to generate greater employee commitment to the production process. These schemes, therefore, work indirectly to improve and increase productivity in the workplace" (Lipsky, 1990, p. 674).

Similarly, Kim (2002) points out the importance of "organizational leaders' commitment to changing organizational culture from traditional patterns of hierarchical structure to participative management and empowerment" (p. 237). He urges, "When agencies implement leadership development programs and other training for managers and supervisors, they should consider including participative management and employee

empowerment techniques as key components of the program" (Kim, 2002, p. 236). Both participative management and employee empowerment are examples of what would be considered as aspects of more organic organizational frameworks.

Corresponding with workplace and organizational changes, an evolution occurred in terms of the nature of work as compared to the industrial days of Taylorism and its call for centralized control. Warren Bennis (1985) coined the term *adhocracy* to describe fairly flat organizations with a decentralized system of authority. Adhocracies would be more fluid with project teams that come together to perform specific tasks (often times those that are knowledge-based, more complex and uncertain possibly within turbulent environments). While team-based organizations do typically increase adaptability and improve coordination and responsiveness, problems can arise. If project teams are superimposed on strong bureaucratic structures, then "dual loyalties and responsibilities usually erode team effectiveness…[and] the organization gets the worst of both worlds, producing an inefficient form of bureaucracy" (Morgan, 2006, p. 53).

Increased Emphasis on Employee Engagement

Along with the evolution of work theory, another major impetus for the increased emphasis on employee engagement is attention to the so-called *bottom line*. Taken together, estimates show the engagement gap of employed yet disengaged employees (roughly half of all Americans in the workforce) costs U.S. businesses $300 billion a year in lost productivity (Saks, 2006). On the other hand, employee engagement is said to be a leading indicator of financial performance (Trahant, 2007). A study of 840,000 employees in American and British multinational companies showed the consequences of disengagement (Laff, 2007). The author found that while 72 percent of new hires are

actively engaged in work, the percentage decreases to 57 percent by the third year of employment. This means that nearly half of all employees working at companies more than three years were not actively engaged.

Large-scale international research has shown that "employee engagement has relatively little to do with macroeconomic conditions. Instead, it is the unique elements of the work experience that are most likely to influence engagement" (Seijits & Crim, 2006). Towers Perrin, (a global consulting firm on personnel, risk and financial management) conducted a Global Workforce Study consisting of an online survey of nearly 90,000 randomly chosen full-time employees from midsize to large organizations in 18 different countries. Their study found that while the drivers of engagement vary by country and demographic factors, the ability of senior management "to demonstrate genuine interest in employees is the top engagement driver not only globally, but in at least seven countries, and is on the top 10 list in all but six countries" (Towers Perrin, 2008, p. 9).

While macro-economic conditions may not be a primary driver of employee engagement, the trickle-down effect of economic conditions can certainly play an indirect part in the work experiences impacting employees. In July 2009, McKinsey & Company conducted a survey of a worldwide representative sample of 1,653 executives and found that 27 percent of middle managers consider their current roles less meaningful than before the onset of financial crisis. Only 36 percent admitted to having a strong intent to remain with their companies over the next two years due to their current stress levels (Lane & McGurk, 2009).

Disengagement and Burnout

In vocational psychology and sociology, career stage research has posited disengagement as the final stage of a four-stage career model (exploration, establishment, maintenance, and disengagement). This chronological model presumes that employees disengage as they near retirement (Cron, 1993). More recent research, however, has indicated that employee disengagement can strike much earlier, even "as quickly as six months after an employee starts a new job" (Laff, 2007). Therefore, it would be helpful if organizations were able to identify and intervene when employees show early warning signs of disengagement.

While there appears to be an abundance of research on the importance of engaging employees and the implications of not doing so, less research exists on why and how employee disengagement occurs. Instead, most process-oriented research relates specifically to the concept of burnout, which Cordes & Dougherty (1997) define as a "developmental process. There is no on-off switch, no clearly defined moment when an employee announces 'I am burned out'. Rather, it is a gradual eroding process" (p. 699). Other process-oriented frameworks related to burnout include Leiter and Maslach's (1988) Maslach Burnout Inventory (MBI), Golembiewski's (1989) Phase Model that built upon Leiter and Maslach's work, Schaufeli's and Bakker's (2004) Job Demands-Resources (JD-R) Model, and the Oldenburg Burnout Inventory (OLBI).

The concept of burnout as applied to work-life traces back to Freudenberger (1974) who borrowed the term from his clinical observations and work within the illicit drug scene. He applied *burnout* to describe the emotional depletion and reduction in motivation and commitment felt both by him personally and the clinic's volunteers.

Throughout the 1970s, discussions of burnout remained primarily focused on human services. "Burnout was originally viewed as a specific hazard for naïve, idealistic, young service professionals who became exhausted, cynical, and discouraged through their experiences in cold bureaucratic systems serving entitled, unresponsive clients with intractable problems" (Schaufeli, Leiter & Maslach, 2009, p. 208).

Correspondingly, Bakker and Demerouti (2004) assert the imbalance of demands over resources on a persistent basis is a primary contributor to burnout. Karasek (1979) deconstructed possible job-related demands into the following stressors: those psychologically tied to workload accomplishment; those resulting from unexpected tasks; and those linked to personal conflict on-the-job. These stressors can then surface in the form of mental strain as exhibited through exhaustion and depression. Yet, with the increased emphasis on employee engagement, comes the expectation that engaged employees will proactively go above and beyond. As a result, the promotion of employee engagement now not only out shadows the prevention of burnout, but might actually contribute to it (Schaufeli, Leiter & Maslach, 2009). "As for the practice of burnout, it remains to be seen if corporations and public sector organizations are willing to provide the necessary resources to maintain extraordinary efforts from their employees, or whether efforts to inspire extraordinary efforts become a new source of burnout" (p. 216).

Problem Statement

Discussions of employee engagement make no mention of workload or job demands. A possible reason for this might be supported by Schaufeli's and Bakker's (2004) aforementioned Job Demands-Resources (JD-R) model, which posits that job demands contribute to exhaustion and eventual burnout, while a lack of job resources

(e.g., performance feedback, job control, participation in decision making, and social support) can lead to lack of engagement.

The results of this research will presumably help those Federal agencies directed to spend time, effort and taxpayer dollars to increase employee engagement through increases of job resources (or what the Office of Personnel Management has termed *conditions conducive to employee engagement*). Federal agencies are also ranked annually as "Best Places to Work" based on their aggregated score on three survey items deemed to represent job/organizational satisfaction. The concept of burnout, or the so-called "erosion of engagement", however, has received significantly less attention. The study's significance, therefore, lies in its potential to contribute to the understanding of burnout as a potential moderator of employee engagement's relation to job/organizational satisfaction. Taken together, the results of this study can be used to help determine whether apparently engaged employees might, in fact, be teetering toward burnout.

Purpose of the Study

The purpose of this study is to explore proposed indices, and multiple linear regression analysis to test for the significance of relationships of variables related to engagement and burnout. The data is from the 2017 Organizational Assessment Survey (OAS) administered to the Space and Naval Warfare Systems Command (SPAWAR). By determining which variables are significantly associated with employee engagement, potential burnout, and job/organizational satisfaction, the ability to identify early warning signs among employees would be strengthened. This type of appropriate and timely intervention becomes a critical factor in heading off employee disengagement before it sets in. The following research questions will guide this study:

1. What constitutes a possible/acceptable index for burnout?

2. To what extent are there differences in employees' perceptions of burnout, conditions conducive to employee engagement, and job/organizational satisfaction in relation to the following demographic measures: work unit, tenure, supervisory responsibility, age, gender, and intent to leave?

3. Does burnout moderate the relationship between the conditions conducive to employee engagement and job/organizational satisfaction?

CHAPTER TWO

LITERATURE REVIEW

The following review of relevant literature highlights how burnout and employee engagement are measured. The discussion will focus on (a) the aforementioned process-oriented burnout frameworks and (b) the development and application of the Employee Engagement Index (EEI) currently used by the federal government.

Burnout Related Frameworks

While there appears to be an abundance of research on the importance of engaging employees and the implications of not doing so, there is a lack of research on why and how employee disengagement occurs. Instead, most research that takes a process-oriented view relates specifically to the concept of burnout. Widely known and applied burnout frameworks include Leiter and Maslach (1988) with the Maslach Burnout Inventory (MBI), Golembiewski (1989) Phase Model, Schaufeli's and Bakker's (2004) Job Demands-Resources (JD-R) Model, and the Oldenburg Burnout Inventory (OLBI).

Maslach Burnout Inventory (MBI)

Leiter and Maslach (1988) suggested that burnout is emotional exhaustion, which first appears as excessive chronic work demands that drain individuals' emotional resources. This conclusion was derived from interviews, surveys, and field observations of professionals in health care, social services, criminal justice, and education. Emotionally exhausted individuals begin limiting their involvement with others and distance themselves psychologically as a defensive coping strategy. Although these depersonalized interactions may help individuals buffer themselves against job demands,

they also lead to feelings of inadequacy, as individuals feel less able to relate to others, their assigned tasks, and the organization as a whole. The result is a three-pronged framework of exhaustion leading to depersonalization and decreased personal accomplishment (Leiter & Maslach, 1988).

The original version of MBI was adapted for beyond human services, with this alternate, more generalized version known as the MBI-General Survey (MBI-GS). It is more generic in the sense that it does not specifically refer to work with people as the source of exhaustion or as the target of cynicism, but instead to work in general (Maslach, Jackson, & Leiter, 1997).

Although the MBI is the most widely used instrument in burnout measurement, it is not without its critics. For example, while Schaufeli et al (2002) agree that engagement is the "positive antithesis of burnout," they contend that since the MBI attempts to measure both burnout and engagement as opposite poles of a single continuum, it is impossible to study the two concepts empirically in relation to one another. Instead, burnout and engagement are "opposite concepts that should be measured independently with different instruments" (p. 75).

Schaufeli et al (2002) conducted a study of 314 undergraduate students of the University of Castellon in Spain and 619 employees from 12 Spanish private and public companies, (including fields such as clerical jobs, technical support staff, human services, management, sales, laboratory and production line operators). Burnout was assessed with the Spanish version of the MBI-GS, and engagement via survey items around the dimensions of vigor, dedication, and absorption. All survey items were interspersed to form a 40-item questionnaire. Model testing used structural equation modeling (SEM)

and internal consistencies were computed for the three engagement dimensions, as well

as the inter-correlations of the burnout and engagement scales (which were negatively

correlated as expected). While it is unclear how well the results of this study support

Schaufeli et al's (2002) assertion that burnout and engagement should be measured

separately, the results did bring to light that the MBI dimension of professional efficacy

(or personal accomplishment) did more closely correlate with the measurement of

engagement than with burnout. Schaufeli et al (2002) refer to other supporting studies,

such as by Leiter (1993) that the development of professional efficacy is largely

independent of exhaustion and cynicism.

Golembiewski's (1989) Phase Model

Another model proposed as an alternative to the MBI is the Phase Model set forth

by Golembiewski (1989). Building his operational definition on responses to items in the

MBI (which asks respondents such questions as, "How are things at work, relative to

your comfortable coping attitudes and skills?"), Golembiewski (1989) took the analysis

of responses a step further by using the median to divide each of Leiter and Maslach's

(1988) burnout components (depersonalization, personal accomplishment, and

exhaustion) into high and low groups, or phases.

Golembiewski (1989) Phase Model rearranges the order of Leiter and Maslach's

(1988) burnout factors to depersonalization, personal accomplishment, and emotional

exhaustion (thereby placing 'emotional exhaustion' as the final vice the first phase of

burnout). Golembiewski "hypothesized that significant depersonalization is necessary to

diminish feelings of personal accomplishment, and significant reductions in personal

accomplishment are necessary to result in high levels of emotional exhaustion" (Cordes, Dougherty, & Blum, 1993, p. 624).

In the Phase Model, higher emotional exhaustion and depersonalization scores are considered more directly contributory to burnout than feelings of inadequate personal accomplishment. This corresponds to Schaufeli et al's (2002) finding previously cited that the MBI dimension of professional efficacy (or personal accomplishment) more closely correlated with measurement of engagement than the reversal of its existence indicated burnout. According to the Phase Model, individuals do not necessarily proceed through each phase in order, although each phase is considered progressively virulent or contributory to burnout (Golembiewski, Boudreau, & Ben-Chu Sun, 1998).

The MBI ratings generate scores for all three burnout components. For the first component, depersonalization is characterized by the objectification of others and distancing of oneself from them. The second component, personal accomplishment, is reverse-scored in that low scores indicate that one feels he or she brings added value to their job. High scores on the third component, emotional exhaustion, estimate how close each individual is to their emotional 'end of the rope'.

As compared to the MBI, the Phase Model proposed by Golembiewski (1989) provides more differentiation regarding the progressive erosion of engagement. By better understanding the psychological components of employees in each phase, one can then begin addressing what type of intervention would be best at each phase. For example, in their study of public sector findings in 34 domestic and international work settings, Golembiewski, Boudreau, & Ben-Chu Sun (1998) found that "a large number of variables co-vary with the phases in regular and robust ways – e.g., the incidence of

physical symptoms increases, phase by advancing phase" (p.59). The following section

presents Schaufeli's and Bakker's (2004) Job Demands=Resources (JD-R) Model which

shows how burnout may be ameliorated through increased job resources and decreased

job demands.

Schaufeli's and Bakker's (2004) Job Demands-Resources (JD-R) Model

Schaufeli's and Bakker's (2004) Job Demands-Resources (JD-R) Model takes a

stance similar to that of the seminal work by Herzberg (1993), who posited that since

separate factors need to be considered, depending on whether job satisfaction or job

dissatisfaction is being examined, it follows that these two feelings are not opposites of

each other. The opposite of job satisfaction is not job dissatisfaction, but rather, *no* job

satisfaction; and similarly, the opposite of job dissatisfaction is not job satisfaction, but

no job dissatisfaction (Herzberg, 2003, p. 23).

Motivational factors such as achievement, recognition for achievement, the nature

of work, responsibility, and growth/advancement lead to job satisfaction. Herzberg

employed the term *hygiene* factors to denote maintenance factors extrinsic from the work

itself (e.g., company policies, administration, supervision, interpersonal relationships,

working conditions, salary, security, and status). He asserted it was the perception of

these related shortcomings that contribute to job dissatisfaction (Herzberg, 2003).

Herzberg's theory of hygiene versus motivators, which stemmed from an initial

examination of engineers and accountants, has been replicated in at least 16 other

investigations with various populations, thus making it one of the most replicated studies

in the job attitude field (Herzberg, 2003).

According to Schaufeli's and Bakker's (2004) JD-R Model, job demands, which include physical demands, time pressure, and shift work, contribute to exhaustion and burnout, while a lack of job resources, for example, performance feedback, job control, participation in decision making, and social support, can lead to disengagement (Schaufeli & Bakker, 2004). The JD-R Model assumes two processes: (1) an energetic process in which high job demands exhaust and wear out the employee's energy backup; (2) a motivational process in which absent resources preclude dealing effectively with high job demands and foster mental withdrawal or disengagement. Under this model, regardless of one's job type or occupation, if job demands are high and job resources are lacking then burnout can develop (Schaufeli & Bakker, 2004).

Schaufeli and Bakker (2004) define job resources as the physical, psychological, social, or organizational job aspects that do one or more of the following: decrease personal, physiological or psychological costs; assist in achieving work goals; and/or stimulate personal growth, learning, and development. They classify job resources as task-level (e.g., performance feedback and rewards), interpersonal-level (e.g., supportive connections with colleagues), and organizational level (e.g., visionary and contributory coaching by supervisors). While an increase in job resources alone can help to enhance employee commitment or engagement, it had little effect on decreasing the exhaustion caused by job demands. Consequently, Schaufeli and Bakker (2004) assert that for the sake of prevention, efforts also need to be made to decrease job demands and thereby head-off or treat the onset of exhaustion.

To empirically test this assertion, Schaufeli and Bakker (2004) conducted a study of employees from four different Dutch service organizations in insurance (N = 381), a

pension fund management (N = 507), home-care (N = 608), and occupational health/safety (N = 202). Questionnaires were administered to these individuals to assess burnout via the MBI-GS in addition to several other instruments aimed at separately measuring engagement, job demands, social support, supervisory coaching, health problems, and turnover intention. Particularly strong and consistent relationships were found to exist between job demands and burnout, health problems and burnout, and job resources and engagement. The relationship with turnover intention was found to be slightly stronger for job demands than for engagement, and there did not appear to be a strong relationship between job resources and burnout. Schaufeli and Bakker (2004) determined that "burnout and engagement – when measured by different instruments – do not merge into one single dimension with high opposite factor loadings for each construct" (p. 308). Moreover, based on their findings, Schaufeli and Bakker (2004) assert that the practical implication is that more can be gained by decreasing job demands vice increasing job resources.

The significant advance of JD-R to the models previously discussed is that it "showed that job demands were the most important predictors of exhaustion…whereas job resources were the most important predictor of reduced commitment (a form of disengagement)" (Schaufeli & Bakker, 2004, p. 296). Thus, the performance of burned out employees might be improved through management's efforts to reduce excessive job demands; for example, by providing employees with a clearer task focus or through adjustment of their workload. The JD-R Model posits that reduced commitment can be addressed by increasing the availability of resources such as autonomy, social support, and possibilities for self-growth (Schaufeli & Bakker, 2004).

Oldenburg Burnout Inventory (OLBI)

In response to the preceding assertion that burnout and engagement should be measured separately, the Oldenburg Burnout Inventory (OLBI) was proposed by Demerouti and Bakker (2007) as an alternate instrument to the MBI to measure burnout and engagement. Among their criticisms of the MBI, Demerouti and Bakker (2007) contend that a psychometric shortcoming exists because items on the same subscale are framed in the same direction (e.g., negatively for exhaustion and cynicism and positively for professional efficacy). As a result, responses to similarly framed items might artificially cluster together. Moreover, since the MBI only assesses the burnout components of exhaustion and cynicism using negatively phrased survey items, Demerouti and Bakker (2007) caution that low mean levels on these items cannot automatically be considered representative as affirming their assumed opposite components of engagement (i.e. vigor and dedication). In their words, "employees who indicate they are not fatigued at all need not necessarily be full of vigor" (Demerouti & Bakker, 2007, p. 7).

Demerouti and Bakker (2007) administered the OLBI to eight different groups of Dutch healthcare and other white-collar employees as part of regular annual health assessments. They concluded that the study's results validated the use of the OLBI as an effective alternative instrument for measuring burnout (as well as engagement) since exhaustion and disengagement were moderately correlated in a positive direction.

Along with the OLBI, the study conducted by Bosman, Rothmann, and Buitendach (2005) utilized a cross-sectional survey design that also incorporated the Job Insecurity Questionnaire, Affectometer 2, and the Utrecht Work Engagement Scale to

measure the relationship among job insecurity, burnout and work engagement of 297 government employees in South Africa. Analysis of the data showed negative correlations between higher levels of job insecurity and lower levels of work engagement, and there was a positive correlation between job insecurity and burnout (Bosman, Rothmann, & Buitendach, 2005).

Measuring Employee Engagement

The following examination of measures of employee engagement will focus on development and application in the practitioner realm – first, as its onset in the commercial arena via the studies conducted by the Gallup Organization; and second, by the federal government from Merit System Protection Board Studies as well as the culmination of the Conditions Conducive to Employee Engagement Index to its continued usage today as simply Office of Personnel Management (OPM) Employee Engagement Index.

In the Beginning: Gallup Organization Studies

From the 1950s through the 1990s, researchers at the Gallup Organization have been conducting qualitative studies (e.g. focus groups and examination of exit interviews) and quantitative analyses (using descriptive statistics and correlational analyses) to identify managerial and environmental success factors that appear to facilitate employee engagement (Harter, Schmidt, Killham, & Agrawal, 2009). Meta-analysis of Gallup's survey database of 7,939 business units around the world (comprising 198,514 respondents) was conducted for data on employee engagement and business unit performance (including measures of employee turnover, customer satisfaction/loyalty, productivity, and profitability) (Harter, Schmidt, & Keyes, 2003). Performance-related

data was correlated with employee engagement related data collected both the same year and the prior year at the item and composite levels. As shown in Figure 1, consistency or generalizability of the relationship was found between employee engagement and performance across organizations. "The meta-analytic correlation of business-unit employee engagement to composite performance is .26 within companies and .33 for business units across companies (correcting for measurement error in the dependent variables)" (Harter, Schmidt, & Keyes, 2003, p. 10). Thus, the researchers concluded that performance and workplace well-being "are complementary and dependent components of a financially and psychologically healthy workplace" (Harter, Schmidt, & Keyes, 2003, p. 16).

Item	Turnover	Customer	Productivity	Profit
Know what is expected	x	x	x	
Materials and equipment	x	x		
Opportunities to do what I do best	x	x	x	x
Recognition/praise	o	o	o	x
Cares about me	x	x	x	o
Encourages development	o	x	o	x
Opinions count	o	x	x	x
Mission/purpose	o	o	x	x
Committed to quality	o	o	x	x
Best friend at work		x	o	x
Talked about progress		o	o	
Opportunities to learn and grow	x	x	x	x
Notes. o = Positive, generalizable relationship. x = Strongest generalizable relationship.				

Figure 1. Items with Meta-Analytic Rs that are Generalizable across Organizations. Adapted from Harter, J., Schmidt, F., & Keyes, C. (2003). Well-being in the workplace and its relationship to business outcomes: A review of the Gallup studies. In C. Keyes, & J. Haidt, Flourishing: The Positive Person and the Good Life (pp. 205-224). Washington, DC: American Psychological Association. Copyright 2003 by the Gallup Organization.

It is worth noting that as compared to this critique of the MBI where statements related to burnout (specifically those aimed at measuring exhaustion and cynicism) are being framed only in a negative manner, the statements that make up Gallup's Q12 assessment of employee engagement (as referenced in Figure 1) are all worded positively, and rated by respondents on a scale from 1=strongly disagree to 5=strongly agree. Thus, a similar, but inversely stated, critique could be applied to Gallup's Q12 engagement survey

Merit System Protection Board Studies

Codified by the Civil Service Reform Act of 1978, the Merit Systems Protection Board (MSPB) is an independent, quasi-judicial agency in the Executive branch that guards Federal merit systems. In its September 2008 study "The Power of Federal Employee Engagement," the MSBP defined employee engagement as "a heightened connection between employees and their work, their organization, or the people they work for or with. Engaged employees find personal meaning in their work, take pride in what they do and where they do it, and believe that their organization values them" (p. i). The primary assertion of the MSPB is that while competitive pay, benefits, and a healthy work-life balance contribute to employee satisfaction, it is engagement that results in employees putting forth the extra effort required to improve organizational outcomes.

According to this initial 2008 study of employee engagement by the MSPB, the time was right for the federal government to focus on engagement. "In an atmosphere of continued management focus on improving results within tight budgets, increasing numbers of retirement-eligible employees, and an increasing struggle to find and attract

top talent, developing work environments that attract that talent—and engaging it once it is in place—is vital to the continued success of agency missions" (p. i).

In order to measure the level of federal employee engagement, the MSPB analyzed the results of the 2005 Merit Principles Survey (MPS 2005). Specifically looking at the following sixteen questions:

MSPB Employee Engagement Scale Questions

Pride in one's work or workplace

1. My agency is successful at accomplishing its mission.

2. My work unit produces high-quality products and services.

3. The work I do is meaningful to me.

4. I would recommend my agency as a place to work.

Satisfaction with leadership

5. Overall, I am satisfied with my supervisor.

6. Overall, I am satisfied with managers above my immediate supervisor.

Opportunity to perform well at work

7. I know what is expected of me on the job.

8. My job makes good use of my skills and abilities.

9. I have the resources to do my job well.

10. I have sufficient opportunities (such as challenging assignments or projects) to earn a high performance rating.

Satisfaction with the recognition received

11. Recognition and rewards are based on performance in my work unit.

12. I am satisfied with the recognition and rewards I receive for my work.

Prospect for future personal and professional growth

13. I am given a real opportunity to improve my skills in my organization.

Positive work environment with some focus on teamwork

14. I am treated with respect at work.

15. My opinions count at work.

16. A spirit of cooperation and teamwork exists in my work unit.

The findings of the MSPB engagement scale were as follows: about one-third of Federal employees are fully engaged, almost one-half are somewhat engaged, and the remaining 17 percent are not engaged. The MSPB determined that first-level supervisors were an important influence on their subordinates' level of engagement, as they have a direct effect on the themes central to engaging Federal employees. The MSPB also determined that engaged employees have a much more positive view of their supervisors' management skills than do employees who are not engaged.

In July 2009, the MSPB released its follow-on report (called "Managing for Engagement – Communication, Connection, and Courage") to the President and Congress. In it, the MSPB broadened its definition of employee engagement to "a high level of motivation to perform well at work combined with passion for the work. Engaged employees are absorbed intellectually and emotionally in their work and vigorously invest their best efforts in producing the outcomes needed for the organization to achieve its goals" (p.i). In this 2009 follow-on study, the MSPB analyzed responses from 41,600 employees at all levels across thirty federal agencies. They concluded that to increase employee engagement, performance management had to be a continuing dialogue between supervisors and their employees. As indicated by their study's title, they recommended three key components –communicating openly and honestly with employees, connecting with them as people to build strong working relationships, and demonstrating the courage to address and resolve problems.

Building on its prior research, the MSPB's November 2012 report ("Federal Employee Engagement: The Motivating Potential of Job Characteristics & Rewards") focused on how job characteristics and rewards support employee motivation and

encourage engagement and performance. The MSPB continued to assert that "having skilled, engaged employees is more important than ever, especially in light of austere fiscal conditions, budget constraints, impending retirements, and public debate over the value of Federal employees and their work" (p. i). In this 2012 report, the MSPB described five job characteristics for supporting employee motivation: (1) skill variety, (2) task identity, (3) task significance, (4) autonomy, and (5) feedback. It also provided strategies for improving job characteristics, including job enlargement, enrichment, and rotation, as well as communicating how jobs contribute to mission accomplishment. Lastly, it discussed rewards (e.g., awards, bonuses, personal satisfaction, and developmental opportunities) in terms of connecting them to employees' effort and performance.

Then: OPM's Conditions Conducive to Employee Engagement Index

In 2010, OPM first published its index to measure the conditions conducive to employee engagement. Using its Federal Employee Viewpoint Survey (FEVS), administered annually to sample of civil servants across the U.S. federal government, OPM measures employees' perceptions of conditions within their agencies that they believe contribute to their organization's success. The survey provides general indicators of how well the federal government manages its personnel. Office of Personnel Management and other federal agency managers use these indicators to develop policy and plan actions to improve agency performance and evaluate individual agencies' progress towards long-term goals. Originally, OPM identified the following eight survey items (narrowed down from 26 to 16 via statistical exploratory and confirmatory factor analysis, and then down to eight based on whether items were actionable):

Q3. I feel encouraged to come up with new and better ways of doing things.

Q4. My work gives me a feeling of personal accomplishment.

Q6. I know what is expected of me on the job.

Q11. My talents are used well in the workplace.

Q47. Supervisors/team leaders in my work unit support employee development.

Q48. My supervisor/team leader listens to what I have to say.

Q53. In my organization, leaders generate high levels of motivation and commitment to the workforce.

Q56. Managers communicate the goals and priorities of the organization.

In its own words, OPM conceded:

> The current FedView survey does not contain direct measurements of employee feelings of engagement such as passion, commitment, and involvement. However, it does include questions that cover most, if not all, of the conditions likely to lead to employee engagement. Therefore, OPM developed an index that tapped the conditions that lead to engaged employees. (Results from the 2010 Federal Employee Viewpoint Survey, p. 20)

Correspondingly, in 2011, OPM referred to the index as "Conditions for Employee Engagement Index" and continued to assert:

> Engaged employees are passionate, energetic, and dedicated to their job and organization. The FEVS was developed to measure employees' experiences with their jobs and work environments, and not directly employee engagement. However, the survey does assess the critical conditions conducive to employee engagement – conditions which would be expected to lead to engaged employees (e.g., effective leadership, work which provides meaning to employees, the

opportunity for employees to learn/grow on the job, etc.). (Results from the 2011

Federal Employee Viewpoint Survey: All About the Employees, p. 19)

The 2011 report goes on to conclude that "Overall, the majority of Federal

employees indicate that positive conditions for engagement are evident in their agencies"

based on 67% of responses being favorable.

In the Technical Report published by OPM that same year, the agency (along with

Westat) cite Macey & Schneider (2008) and posit that OPM's index is "similar to the

Gallup Q12 where survey results can be used to 'infer that reports of these conditions

signify engagement, but the state of engagement itself is not assessed'" (p. 7).

Subsequent to receiving feedback on its 2010 index, OPM reexamined it "to expand and

refine it for the 2011 reports" (2011 Federal Employee Viewpoint Survey Technical

Report: Data Analysis, p. 30). The conceptual framework used by OPM is as follows:
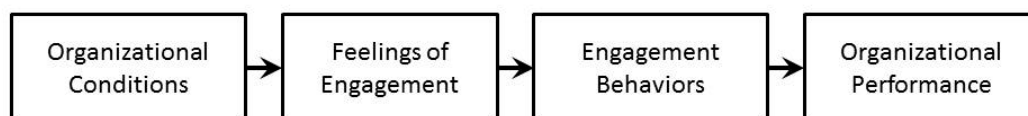
Figure 2. Office of Personnel Management Conceptual Framework.

Per OPM, "The items in the FEVS do not directly measure these [latter three

framework] elements since the survey was developed to measure organizational climate.

However, the FEVS items measure major conditions/antecedents/drivers which would be

expected to lead to engaged employees" (p. 31).

As described in the 2011 Technical Report, the 2010 index development was

comprised of the following three steps:

Step 1: The OPM Survey Analysis Team (four psychologists and one

management analyst) individually selected items, discussed them as a group,

chose an initial 32 items, checked these against those commonly found in literature, and reduced their list to 26 items.

Step 2: Westat performed a preliminary exploratory analysis (principal component analysis – PCA) on a sample of 2010 data, resulting in a three-factor model. A structural equation modeling approach (in SAS 9.2) was then applied to see if any items should be dropped and if "Conditions Conducive to Employee Engagement" was a viable underlying factor. A separate sample was then used for three Confirmatory Factor Analyses (CFA) for each of the three proposed factors, which were subsequently combined into one model. "Evidence of a single, underlying 'Conditions Conducive to Engagement' factor was provided by the strong relationships (standardized regression coefficients > .60) between each of the three factors" (pp.31-2).

Step 3: The final step was taken in 2010, when OPM psychologists analyzed the resultant 16 items from Step 1 & 2 for whether or not they would be considered actionable (i.e., "If agencies are expected to take action on the results of the survey, then the items must be seen as being actionable and under the control of the agency" (p. 32)).

Step 4: In 2011, OPM revisited its initial 16-item 3-factor model and performed a CFA with a May 2011 data extract. They determined that item 5 (I like the kind of work I do) should be dropped for the following reasons: it reduced the fit of the model; it had lower variability and thus would not perform well at differentiating agencies; it had the lowest standardized loading of all the items.

Finally, and most notably, OPM stated:

> In addition, following the Macey & Schneider (2008) description of employee
> engagement, item 5 represents more of an employee's absorption, passion, and
> affect with respect to their work rather than the organizational conditions
> expected to lead to employee engagement, which is what the FEVS engagement
> index is intended to measure. Since item 5 may more directly measure an
> employee's "state" of engagement rather than the situations/work conditions
> conducive to engagement, Westat recommended that this item be dropped for
> the FEVS Conditions for Employee Engagement Index. (pp. 32-3)

This is notable because it brings into question, whether despite OPM's claims, there are other items on the FEVS that are actually conducive to measuring the state of engagement.

Now: OPM's Employee Engagement Index (EEI)

The following resultant 15-item 3-factor index is still in use today by OPM, although it is now simply referred to as the "Employee Engagement Index (EEI)":

Leaders Lead (5 items)

Q53. In my organization, leaders generate high levels of motivation and commitment to the workforce.

Q54. My organization's leaders maintain high standards of honesty and integrity.

Q56. Managers communicate the goals and priorities of the organization.

Q60. Overall, how good a job do you feel is being done by the manager directly above your immediate supervisor/team leader?

Q61. I have a high level of respect for my organization's senior leaders.

Supervisors (5 items)

Q47. Supervisors/team leaders in my work unit support employee development.

Q48. My supervisor/team leader listens to what I have to say.

Q49. My supervisor/team leader treats me with respect.

Q51. I have trust and confidence in my supervisor.

Q52. Overall, how good of a job do you feel is being done by your immediate supervisor/team lead?

Intrinsic Work Experience (5 items)

Q3. I feel encouraged to come up with new and better ways of doing things.

Q4. My work gives me a feeling of personal accomplishment.

Q6. I know what is expected of me on the job.

Q11. My talents are used well in the workplace.

Q12. I know how my work relates to the agency's goals and priorities.

This misnomer led the then OPM Director Katherine Archuleta in her opening message for the release of the 2013 FEVS results to misleadingly proclaim:

First, the Federal workforce remains resilient in the face of historic challenges. Over 90 percent continue to be willing to put in extra effort, are constantly looking for ways to do their job better, and feel their work is important. Their levels of engagement are generally holding steady despite declining satisfaction. (Results from the 2013 Federal Employee Viewpoint Survey, p. i)

Subsequently, in her 2015 opening FEVS results message, OPM Acting Director Beth Cobert more accurately places the emphasis on the conditions conducive to engagement (versus supposed levels of engagement themselves), but there is still room for misinterpretation by the casual reader:

Compared with 2014, more employees perceive their agency conditions as conducive to engagement, describe their workplaces as inclusive, and report satisfaction on their jobs. On a government-wide basis, the Employee

Engagement Index increased by 1 percentage point; however, that seemingly modest increase is supported by broad-based improvements – 27 of the 37 large, independent agencies increased by 1 percent or more and 10 agencies increased 3 percent or more" (Results from the 2015 Federal Employee Viewpoint Survey, p. i).

In her blog released on 28 September 2015, however, Director Cobert backtracks on the distinction by declaring in her opening sentence, "employees across the Federal Government are more engaged in their workplaces and more satisfied with their jobs than they were a year ago" (Positive Trend Lines in Employee Engagement and Job Satisfaction, 28 Sep 2015).

Even the U.S. Government Accountability Office (GAO) reports – Preliminary Observations on Strengthening Employee Engagement during Challenging Times (April16, 2015) and Additional Analysis and Sharing of Promising Practices Could Improve Employee Engagement and Performance (July 2015) – appear to walk the tight-rope of assuming that the EEI derived from the FEVS is a measure of employee engagement. This is illustrated by GAO's opening explanation of why they did their study:

> GAO was asked to review recent trends in federal employee engagement and steps OPM and agencies are taking to improve it. Among other things, this report: (1) describes trends in employee engagement from 2006 through 2014, (2) identifies practices in improving employee engagement, and (3) evaluates OPM's tools and resources to support employee engagement. (Additional

Analysis and Sharing of Promising Practices Could Improve Employee

Engagement and Performance. July 2015)

Here again, the precursor of "conditions conducive to" is left off, so readers are

led to believe that actual levels of employee engagement are being examined. To the

GAO's credit, in the "Limitations" section of that July 2015 report, they do concede that

the "FEVS was not initially designed with the express purpose of measuring engagement

or identifying factors related to engagement. To the extent policymakers seek to use data

to assess drivers of engagement, best practices suggest designing a survey or questions to

align expressly with the concepts of interest" (Additional Analysis and Sharing of

Promising Practices Could Improve Employee Engagement and Performance. July 2015,

p. 57).

Counter to the preceding statement, and possibly a reason for congressional

requests for a GAO review, a Memorandum for Heads of Executive Departments and

Agencies (M-15-04) from the Director of the Office of Management & Budget (OMB)

Shaun Donovan, Beth Cobert (then Deputy Director for Management, OMB), OPM

Director Katherine Archuleta, and Meg McLaughlin the Deputy Director, White House

Presidential Personnel Office was released on 23 December 2014. It concludes by

directing agencies to collect "return on investment data," stating:

> The linkage between investing in employee engagement and mission results
>
> will help agencies measure success. Reviewing and making connections
>
> between investment and subsequent results will demonstrate the value of
>
> changing culture. For example, as engagement improves, do customer service
>
> measures indicate more satisfied employees or are agencies seeing a decrease

in error rates and injuries? These types of measures can be quantified and translated into savings and other mission-related metrics" (Memorandum for Heads of Executive Departments and Agencies (M-15-04), 23 December 2014).

Once more, the flaw here is that agencies are not armed with how to measure engagement, let alone any improvement in it. Ironically, the most damning testament regarding this ongoing flaw perpetuated by OPM is written in black-in-white in the study by Macey & Schneider (2008) that OPM cited as part of its foundational work. Macey & Schneider (2008) reference Buckingham & Coffman (1999) when they observe, "Most of the engagement measures we have seen failed to get the conceptualization correct, so the measures do not, if you will, measure up. Especially in the world of practice, we have seen measures of what we have called conditions for engagement labeled as measures of engagement" (p.26).

Lastly and most recently, on 13 January 2017, the Honorable Franklin R. Parker (Assistant Secretary of the Navy (Manpower & Reserve Affairs) released a memorandum on the Department of the Navy's 2016 FEVS results. In its opening sentence, it states that the FEVS is "designed to measure employee engagement across several categories." Then on 12 October 2017, regarding the release of the 2017 results, an article was published on govexec.com proclaiming "Federal Employees Happier, More Engaged for Third Year in a Row" citing, "67% of feds said they felt engaged by their work this year" (Wagner, 2017). Both of these instances illustrate that the ramifications of OPM's EEI misnomer are still evident today.

Summary of Literature Review

As illustrated by the preceding discussion of burnout related frameworks, there does not appear to be agreement on whether burnout is indeed the antithesis of engagement and as such, can be equated to disengagement. Consequently, overlaying process-oriented burnout frameworks to explain how employee engagement might erode does not seem to be an acceptable proposition. This thereby reinforces that there is a lack of research on why and how employee disengagement occurs. Moreover, with the increased focus on positive psychology, there appears to be a dearth in practitioner and academic circles to fill this knowledge gap.

Practitioner articles abound claiming to "Reduce Employee Burnout, Increase Employee Engagement" (Sagor, 2011) and "(7 Tips to) Improve Employee Engagement and Reduce Burnout" (Soliant, 2010). Alternatively, are they separate constructs that can coexist within individuals; for example, is it possible for employees to be burnt out but still engaged? Moreover, is there a tipping point where burnout can/does erode engagement?

The possible consequences of falsely equating burnout and disengagement are that mitigating one does not ensure the mitigation of the other. There might be a population of engaged but burnt out individuals who still identify with and strive to support their organizations' missions, yet have been pushed to the point of no longer being able to do so (whether cognitively, physically, or emotionally). Developing a better understanding if an interrelationship between burnout and disengagement does exist, especially in these austere economic times of belt-tightening and resource

reductions would assist management in knowing whether the productive capacity of its workforce is being jeopardized.

Additionally, via its now simply and misleadingly called Employee Engagement Index, OPM is really only measuring the first link in its conceptual framework (i.e., Organizational Conditions → Feelings of Engagement → Engagement Behaviors → Organizational Performance). Yet now federal agencies are being directed to spend time, effort and taxpayer dollars to make data-less assumptions to connect to the last link. Just as there are organizational conditions that are potential antecedents to employee engagement, there are no doubt countervailing factors as well (including and not limited to possible increasing levels of burnout). Ultimately, these too must be understood and measured to determine whether efforts will be successful.

CHAPTER THREE

METHODOLOGY

This chapter will first review the purpose of the study and the survey instrument used in the analysis. This chapter also provides an overview of the processes and procedures used in researching which variables appear to significantly impact potential burnout, employee engagement, and job/organizational satisfaction.

Purpose of the Study

The purpose of this study is to apply correlational techniques to explore the viability of several proposed indices, and multiple linear regression analysis to test for the significance of variables related to burnout, engagement, and job/organizational satisfaction. The data used for this is based on the 2017 Organizational Assessment Survey (OAS) administered to my employer, SPAWAR. The following research questions will guide this study:

1. What constitutes a possible/acceptable index for burnout?

2. To what extent are there differences in employees' perceptions of burnout, conditions conducive to employee engagement, and job/organizational satisfaction in relation to the following demographic measures: SPAWAR work unit, HQ organizational code, tenure, supervisory responsibility, age, gender, and intent to leave?

3. Does burnout moderate the relationship between the conditions conducive to employee engagement and job/organizational satisfaction?

Survey Instrument

The Office of Personnel Management developed the Organizational Assessment Survey (OAS) to provide agencies with a standardized tool for assessing organizational climate. Through a comprehensive literature review and analyses of more than 10 years of climate and employee satisfaction data, OPM identified the characteristics of organizations that theory, research, and practice indicate are related to organizational effectiveness. The OAS measures employee perceptions of 12 key dimensions and 35 facets of high performing organizations, along with critical employee attitudes and behaviors.

The OAS benchmark database consists of more than 150,000 ratings from dozens of survey administrations conducted over the previous three years. Some items from OPM's Federal Employee Viewpoint Survey have been incorporated into the OAS to further expand the range of benchmarking possibilities. The survey can also be tailored by emphasizing different dimensions and facets and by creating items to assess issues, challenges, and questions unique to individual agencies. The survey was administered online via OPM's USA Survey platform.

Survey Population

In an effort to improve and enhance organizational effectiveness, the Space and Naval Warfare Systems Command (SPAWAR) collaborated with OPM's Human Resources Solutions division to administer the OAS. The Office of Personnel Management previously administered the OAS to one or more SPAWAR components eight times since 2002. In 2017, OPM administered the OAS to approximately 8,000 employees in SPAWAR Headquarters, SPAWAR Systems Center (SSC) Atlantic, SSC

Pacific, and its Program Executive Offices (PEOs). The focus of this examination, however, is the Headquarters/PEO survey, for which 870 out of 1111 personnel (military and civilian) responded for an overall response rate of 78%.

Survey Development

The Office of Personnel Management worked with SPAWAR to modify its prior surveys, based on such factors as strategic priorities, organizational values, and recent or anticipated organizational changes. It tailored demographic items to match SPAWAR's organizational structure, and created and assisted with pilot-testing customized survey items. All SPAWAR components received the same core survey, which included SPAWAR-wide customized items and demographics. The PEOs shared the Headquarters survey. SSC Pacific and Headquarters/PEO surveys included locally developed survey items. Across all surveys, there were approximately 60 custom items (excluding demographics). Only the SSC Pacific survey contained open-ended comments. All surveys were administered online, and OPM supplied one shared username and password for each of the three surveys (i.e., SSC Atlantic's, SSC Pacific's, and the Headquarters/PEOs survey).

Survey Administration

The Office of Personnel Management administered the survey over the course of approximately five weeks in April-May 2017. SPAWAR leadership sent notifications and reminders to all military and civilian personnel prior to and during the course of the survey to encourage participation. The Office of Personnel Management provided SPAWAR with daily response updates and answered respondents' technical questions

about the survey.   The survey was administered as a census, that is, all eligible military and civilian employees had the opportunity to take the survey.

Most of the items had six response categories: Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree, and No Basis to Judge/Do Not Know. In some instances, these responses are collapsed into one positive category (Strongly Agree and Agree), one negative category (Strongly Disagree and Disagree), and a neutral category (Neither Agree nor Disagree). The 122 items that made up the Headquarters/PEOs survey are listed in the Appendix.

<div align="center">**Proposed Data Analysis**</div>

The data analysis for the aforementioned survey instrument consists of indices development, followed by the application of correlational and multiple linear regression techniques to test for the significance of relationships of variables related to burnout, (conditions conducive to) employee engagement, and self-reported job/organizational satisfaction.

Indices Development

Burnout. In order to examine Research Question One (what constitutes an acceptable index for burnout), potential indices were created by combining questions in the survey that were found to be correlated at least at the .05 significance level. The selection of items was based on a more in-depth examination of the burnout models referenced in the Literature Review section. For example, an initial examination revealed the following 2017 OAS survey statements to be most highly correlated to survey statement #117 "I feel mentally worn out":

Q31. My workload is reasonable. (r-value of -.40)
Q32. The distribution of work among employees is fair. (r-value of -.32)

Q83. I have too many responsibilities at work to do them all well. (r-value of -.49)

Q84. I feel like I have too many bosses. (r-value of -.32)

Q98. I am stressed out because of work. (r-value of -.57)

Engagement Conditions. In addition to a Burnout Index, a (Conditions Conducive to) Employee Engagement Index and a Job/Organizational Satisfaction Index were utilized to examine the second research question (i.e., How would scores on this index compare with reported levels of job/organizational satisfaction and the perceived existence of conditions conducive to employee engagement?). Correlational techniques were utilized to recreate OPM's (Conditions Conducive to) Employee Engagement Index, and the significance level with which statements are found to relate to one another was determined.

Corresponding to OPM's (Conditions Conducive to) Employee Engagement Index, statements included ten of their fifteen survey items from the FEVS as described previously. The five excluded items, while on the FEVS, were not on the OAS and will therefore not be part of the following reconstructed index:

Leaders Lead

Q64. In my organization, leaders generate high levels of motivation and commitment to the workforce.

Q77. My organization's leaders maintain high standards of honesty and integrity.

Q59. Managers communicate the goals and priorities of the organization.

(Excluded) Overall, how good a job do you feel is being done by the manager directly above your immediate supervisor/team leader?

(Excluded) I have a high level of respect for my organization's senior leaders.

Supervisors

Q19. Supervisors/team leaders in my work unit support employee development.

(Excluded) My supervisor/team leader listens to what I have to say.

Q67. My supervisor/team leader treats me with respect.

Q66. I have trust and confidence in my supervisor.

Q85. Overall, how good of a job do you feel is being done by your immediate

supervisor/team lead?

<u>Intrinsic Work Experience</u>

Q38. I feel encouraged to come up with new and better ways of doing things.

Q82. My work gives me a feeling of personal accomplishment.

(Excluded) I know what is expected of me on the job.

Q81. My talents are used well in the workplace.

(Excluded) I know how my work relates to the agency's goals and priorities.

Job/Organizational Satisfaction. A Job/Organizational Satisfaction Index

variable was also created, which combined the three questions employed for the Best

Places to Work ranking (which is also derived from the FEVS and applied/reported

across the federal government):

Q109. I recommend my organization as a good place to work.

Q92. Considering everything, how satisfied are you with your job?

Q93. Considering everything, how satisfied are you with your organization?

Indices were created by combining questions in the survey that were found to be

correlated at least to the .05 significance level (as typically used in social science research

as a standard). These three resultant indices were used as variables in the subsequent

multiple linear regression analysis.

Reliability of Indices

As indices were developed, their reliability was tested through an examination of

Cronbach's Alpha, which is a coefficient of internal consistency. Commonly used as an

estimate of reliability, Comrey and Lee (1992) (as cited by Meyers, et al, 2006) "have

characterized coefficients of .70 as excellent, .63 as very good, .55 as good, .45 as fair,

and .32 as close to minimal" (Meyers, et al, 2006, p. 507). These general guidelines were used in the interpretation of reliability results. Additionally, the examination of correlations with different combinations of demographics amongst the entire surveyed sample was conducted.

Control or Covariates

For the second research question – To what extent are there differences in employees' perceptions of burnout, conditions conducive to employee engagement, and job/organizational satisfaction in relation to the following demographics: SPAWAR work unit, HQ organizational code, tenure, supervisory responsibility, age, gender, and intent to leave? The present study provided comparative data related to these perceptions across the aforementioned demographics, taking into consideration the following survey items and applying comparisons of correlation coefficients:

Q123. Where do you work?

Q124. What is your organizational code in HQ?

Q131. How long have you been with HQ/PEO?

Q134. What is your level of supervisory responsibility?

Q138. What is your age?

Q139. Are you male or female?

Q105. Are you considering leaving HQ/PEO?

Proposed Model of Job/Organizational Satisfaction

For Research Question Three – Does burnout moderate the relationship between the conditions conducive to employee engagement and job/organizational satisfaction? – see Figure 3 for the model of job/organizational satisfaction tested in the present study.
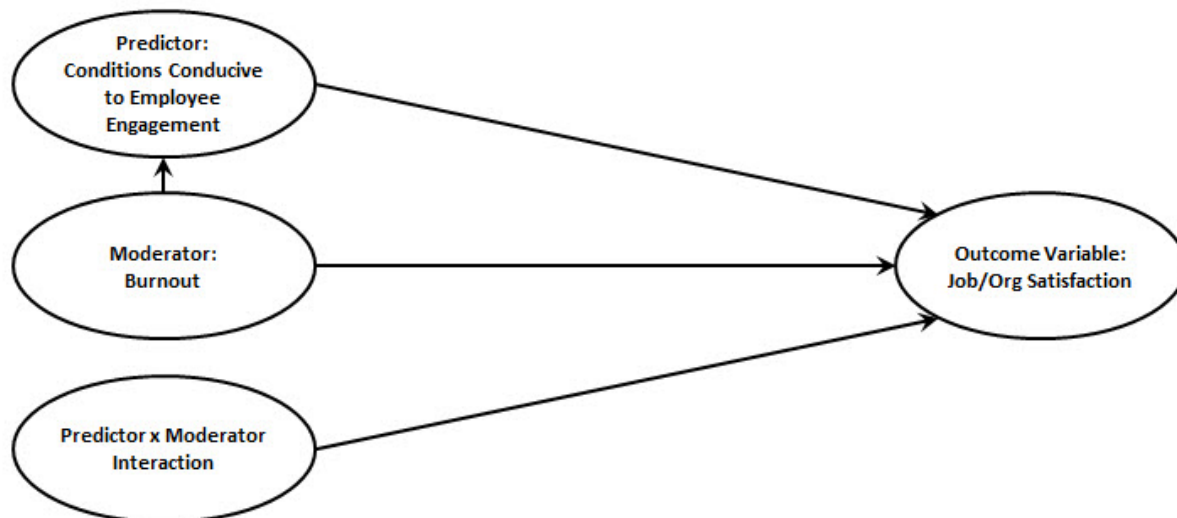
Figure 3. Model of Job/Organizational Satisfaction.

The following hypotheses were informed by Baron and Kenny's (1986) work related to the determination of moderators in psychological research.

Hypothesis 1: Perceptions of conditions conducive to employee engagement (as the independent variable) will be positively related to job/organizational satisfaction.

Hypothesis 2: Burnout (as the independent variable) will be negatively related to job/organizational satisfaction.

Hypothesis 3: At high levels of burnout, it is hypothesized that engagement conditions will be XX related to job/organizational satisfaction; at low levels of burnout, engagement conditions will be XX related to job/organizational satisfaction.

This hypothesis suggests that burnout moderates the relationship between perceptions of conditions conducive to employee engagement and job/organizational satisfaction. Baron and Kenny (1986) advised that the presence of a moderator is determined by the significant relationship of the interaction between the proposed independent and moderator variables and the dependent variable. In other words, this was

tested by investigating when perceptions of conditions conducive to employee engagement when multiplied by burnout was predictive of job/organizational satisfaction.

Hypotheses 1 through 3 were tested in a manner consistent with Baron and Kenny's (1986) three-step procedure for testing for the existence of a moderator. To test Hypothesis 1, perceptions of conditions conducive to employee engagement were entered in the first step of a regression analysis where job/organizational satisfaction is the dependent variable. To test Hypothesis 2, burnout was entered in the second step of the same regression equation and to test Hypothesis 3, the interaction between perceptions of conditions conducive to employee engagement and burnout will be entered in step 3.

Missing Data

As pointed out by Garson (2015), "Improper handling of missing values will distort analysis because, until proven otherwise, the researcher must assume that missing cases differ in analytically important ways from cases where values are present. That is, the problem with missing values is not so much reduced sample size as it is the possibility that the remaining dataset is biased" (p. 6). Out of the 870 responses under analysis, 603 (or 69%) exhibited item non-response in which subjects answered some but not all items on the survey instrument. Included among the possible reasons for item non-response are: "fatigue with the instrument; sensitivity of the item; interruptions while taking the survey; information is unknown or not readily available; item is not applicable; the item is ambiguous, encompasses two different dimensions, or has other item validity issues" (Garson, 2015, p. 9). Among the response choices for many of the items was "6 - Do not know" thus corresponding with "information is unknown or not readily

available"; therefore, "6 - Do not know" responses were also considered as missing data based on item non-response.

In order to determine how to best handle instances of missing data, whether or not data were missing completely at random (MCAR) had to be discerned. "MCAR exists when missing values are randomly distributed across all observations. Missingness in a given variable does not depend on any other variable, whether observed or unobserved" (Garson, 2015 p. 11). For the purposes of this study, Little's MCAR test was applied to the dataset via the Missing Values Analysis module of SPSS. "Little's MCAR test is the most common test for missing cases being missing completely at random. If the p value for Little's MCAR test is not significant, then the data may be assumed to be MCAR and missingness is assumed not to matter for the analysis" (Garson, 2015, p.12).

Little's MCAR Test. As a first step in administering Little's MCAR test, data values of "0" and "6" were coded as System Missing values. Demographic items (e.g., SPAWAR Work Unit, HQ Organizational Code, Tenure, Supervisory Level, Age, and Gender) were selected as Categorical Values and all other survey items (with the exception of Question One05 (Q105) related to the intent to leave) were used to run Little's MCAR test. Unlike the other (non-demographic) survey items, Q105 had the following seven choices that did not correspond to a Likert scale: 1 - 'No'; 2 - 'Yes, to retire; 3 - 'Yes, due to a military transfer'; 4 - 'Yes, to take another job elsewhere in SPAWAR'; 5 - 'Yes, to take another job elsewhere in the Federal Government'; 6 - 'Yes, to take another job outside of the Federal Government'; and 7 - 'Yes, other'. As seen, in this case, "6" did not equate to a "Do not know" response. Since it was to be treated as a

categorical variable, Q105 (intent to leave) would be considered a demographical variable going forward.

The following are the results of Little's MCAR test: Chi-square distance was 57573.06, the degrees of freedom was 53504, and most importantly the p value was found to be .00 and therefore significant. As a result, the missing values cannot be considered MCAR. Although MCAR did not prove to be applicable to the dataset under examination, for comparative purposes, the results using Series Mean as a substitute for missing values (as well as excluding responses altogether that contained missing values via list-wise deletion, which dropped the n value from 870 responses to 267) were included in the analysis tables presented in the following Findings chapter for Research Question One. For Research Questions Two and Three, multiple imputation (as described in the next section, where missing values are substituted based on regression calculations across a respondent's provided answers) served as the dataset under examination.

Multiple Imputation. As it was determined that the dataset was not MCAR, then two alternatives remain – Missing at Random (MAR) and Missing Not at Random (MNAR). In the former case (MAR), "missingness may be predicted by other observed variables and does not depend on any unobserved variables. If missingness may well be predicted from observed variables, then multiple imputation (MI) is appropriate" (Garson, 2015, p. 15). The latter (MNAR) "happens when missingness depends at least in part on unobserved variables…but while missingness cannot be ignored, there is no well-accepted method of dealing with non-ignorable missingness" (Garson, 2015, p. 15-16). Subsequently, in the absence of an alternative method, this study will employ multiple imputation. This choice is supported by the fact that "multiple imputation is the currently

prevailing method of estimating missing values. Though it may be implemented by various methods, by default in SPSS, SAS, and Stata, it uses the Markov Chain Monte Carlo (MCMC) simulation methods, which are probabilistic in nature" (Garson, 2015, p. 16). According to Van Buuren (2012), "Nowadays multiple imputation is almost universally accepted and, in fact, acts as a benchmark against which newer methods are being compared" (p. 27).

For the purposes of this study, and as was done with the aforementioned administration of Little's MCAR test, Demographic items (e.g., SPAWAR Work Unit, HQ Organizational Code, Tenure, Supervisory Level, Age, Gender, and Intent to Leave) were excluded, but and all other survey items included, in the running of the multiple imputation. The five resultant imputed datasets were then averaged at the survey item level to develop a "pooled" dataset of the five imputations. This pooled dataset, along with the series mean, list-wise deletion results, and base dataset (in which missing values were left unchanged) make up the Findings described to answer Research Question One (Burnout Index). Research Question Two (Demographics) and Research Question Three (Moderation) will utilize only the resultant Pooled dataset of the five multiple imputations.

CHAPTER FOUR

FINDINGS

The purpose of this study was to test for the significance of relationships of variables related to burnout, engagement, and job/organizational satisfaction. The three guiding research questions were 1) What constitutes a possible/acceptable index for burnout? 2) To what extent are there differences in employees' perceptions of burnout, conditions conducive to employee engagement, and job/organizational satisfaction in relation to the following demographic measures: SPAWAR work unit, HQ organizational code, tenure, supervisory responsibility, age, gender, and intent to leave? 3) Does burnout moderate the relationship between the conditions conducive to employee engagement and job/organizational satisfaction?

Based on the 2017 Organizational Assessment Survey (OAS) administered to my employer, SPAWAR, this chapter presents the results of correlational techniques used to explore proposed index viability and multiple linear regression analysis. This chapter initially focuses on a preliminary factor analysis of the entire dataset, followed by reliability testing to aid in index development. The second section of this chapter will describe findings based on the significance of various demographic measures. Finally, this chapter presents the findings of correlational and multiple linear regression techniques to test for the significance of variables amongst/between the indices for burnout, engagement, and job/organizational satisfaction.

Research Question One: Burnout Index

Factor Analysis

Since factor analysis is considered a large-sample statistical procedure, various

sources (e.g., Bryant & Yarnold, 1995; Comrey & Lee, 1992; Gorush, 1983; Hutcheson

& Sofroniou, 1999) have provided guidelines for sample size adequacy. For example,

according to Comrey and Lee (1992) (as cited in Meyers, et al, 2006), a sample size of

200 would be considered *fair* in terms of a very general evaluation. In addition to these

general rules of thumb, sample size can also be used as a ratio to the number of variables

(or the number of survey items). Meyers, et al (2006) recommend not having a sample

size less than 200, which they assert would be an adequate sample for a 10-item survey.

As a result, the 2017 SPAWAR OAS sample size of 870 is adequate for the number of

survey items under examination.

Table 1 shows the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy as

revealed by initial data screening as well as Bartlett's Test of Sphericity approximation of

Chi-Square. As seen, in all cases, both appeared to be above the adequate thresholds (e.g.,

KMO > .70) to proceed with the factor analysis. Moreover, the Bartlett's test of

sphericity score was significant at the .00 level further validating the use of factor

analysis. This was even the case when list-wise deletion was applied to deal with missing

values and the sample size dropped from 870 to only 267.

Eigenvalues as defined by Meyers, et al (2006) as the "sum of the squared

correlations for each component over the full set of variables" (p. 486) help determine if a

factor is significant enough to be extracted and considered a component (e.g., eigenvalue

> 1). Factor rotation (with one of the most commonly used strategies being varimax,

which was employed in this analysis) then allows for the "pivoting of the extracted

factors around their point of intersection" thus "achiev[ing] simple structure" (Meyers, et

al, 2006, p. 494).

Table 1

Factor Analysis Results for Burnout Component Variables

Survey Question	With 0s/6s	No 0s/6s	Series Mean	Pooled Imputation
Q83 I have too many responsibilities at work to do them all well.	-.79	-.78	-.80	-.81
Q117 I feel mentally worn out.	-.72	-.74	-.80	-.80
Q31 My workload is reasonable.	--	--	.53	.54
Q98 I am stressed out because of work.	-.65	-.66	-.72	-.71
Q84 I feel like I have too many bosses.	-.64	-.62	-.52	-.52
	n = 870	n = 267	n = 870	n = 870
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.97	.97	.99	.99
Approx. Chi-Square	54583.63	51757.80	115233.06	119279.53
Significance	.00	.00	.00	.00
Total Variance Explained: Initial Eigenvalues % of Variance	1.37%	1.80%	1.84%	1.79%
Number of Components with Eigenvalue > 1	10	10	12	13

As seen in Table 1, an exploratory factor analysis on the 122 survey items (listed

in the Appendix) across all datasets produced a 10 to 13-component solution. The focus

of the remainder of this examination is on the component under which the following four

or five survey items grouped:

31. My workload is reasonable.

83. I have too many responsibilities at work to do them all well.

84. I feel like I have too many bosses.

98. I am stressed out because of work.

117. I feel mentally worn out.

This component was of particular interest because of the grouping of items related to expressed exhaustion and workload related demands, thus indicating a possible viable index for burnout. In addition, with the exception of Question 32 (The distribution of work among employees is fair), these survey items were those previously cited/expected in the preceding "Proposed Data Analysis" based on initial correlations performed.

In terms of the different treatments with regard to missing values, Question 31 (My workload is reasonable) did drop out of the component for list-wise deletion (where values of 0 and 6 were dropped) and the base/original dataset that included missing values. Having one less variable (or survey item) correspondingly resulted in these two cases accounting for slightly less of the total variance. As will be further discussed later, it is noteworthy that unlike the other questions making up the resultant Burnout Index, Question 31 was the only one not originally reverse-scored. This might have contributed to it being dropped out in these two cases.

Reliability Test

To test its reliability as an index for burnout, Cronbach's Alpha was employed as a test for a coefficient of internal consistency. Commonly used as an estimate of reliability, Comrey and Lee (1992) (as cited by Meyers, et al, 2006) "have characterized coefficients of .70 as excellent, .63 as very good, .55 as good, .45 as fair, and .32 as close to minimal" (Meyers, et al, 2006, p. 507). These are the general guidelines used in the interpretation of reliability results, which are displayed in Table 2.

As seen in Table 2, the proposed construct resulting from the aforementioned grouping of variables under a common component did meet the minimum alpha coefficient criteria. Once Question 31 was deleted from the Series Mean and Pooled

Imputation proposed indices, their internal reliability rose above .70 as well. In all cases,

the resultant four-survey item construct would therefore reliably measure burnout.

Similarly, reliability testing was applied to the indices to be used for measuring the

Conditions Conducive to Employee Engagement and Job/Organizational Satisfaction.

Those results across all cases are also displayed in Table 2 and demonstrate Alpha

Coefficients well above .70.

Table 2

Reliability of Variables in Indices (Cronbach's Alpha)

Index	Number of Variables	Alpha Coefficient
Burnout		
With 0s/6s	4	.78
No 0s/6s	4	.76
Series Mean (Q31 removed)	5 » 4	.37 » .77
Pooled Imputation (Q31 removed)	5 » 4	.37 » .77
Conditions Conducive to Employee Engagement (or Engagement Conditions)		
With 0s/6s	10	.95
No 0s/6s	10	.97
Series Mean	10	.95
Pooled Imputation	10	.95
Job/Organizational Satisfaction		
With 0s/6s	3	.94
No 0s/6s	3	.97
Series Mean	3	.94
Pooled Imputation	3	.94

High and Low Level Groupings Based on Means of Indices

The aforementioned indices – Burnout, Engagement Conditions, and
Job/Organizational Satisfaction – were broken into high and low groupings based on their
mean values. Low groupings constituted values less than the index mean, while high
groupings were values at and/or above the index mean. This is illustrated in Table 3.

Table 3

High and Low Groupings based on Index Means

Index	Mean	Standard Deviation
Burnout	2.90	.98
High (above the mean) n=441		
Low (below the mean) n=429		
Engagement Conditions	3.89	.99
High (above the mean) n=547		
Low (below the mean) n=323		
Job/Organizational Satisfaction	3.71	1.11
High (above the mean) n=553		
Low (below the mean) n=317		

The formation of these groupings allows for the difference in means to be
analyzed for significance via independent samples t-tests, which are used to compare the
means of two groups. The t-tests were run to test for the assumption that High versus
Low groupings in each index instance would answer questions on the overall survey
differently. As seen in Table 4, differences were found to be significant for all questions
with the exception of Q100 (I have a lot of great ideas for improving HQ/PEO) for High
versus Low groupings of the Engagement Conditions Index as well as for High versus
Low groupings of the Job/Organizational Satisfaction Index.

Table 4

No Significant Difference in High and Low Groupings' Means for Q100 (I have a lot of great ideas for improving HQ/PEO)

Index	Levene's Test for the Equality of Variances	Significance (2-tailed)	Mean Difference
Engagement Conditions	.00		
Equal Variances Not Assumed		.24	-.08
Job/Organizational Satisfaction	.01		
Equal Variances Not Assumed		.77	-.02

Whereas the means of only one question did *not* differ significantly for the High and Low groupings of the Engagement Conditions Index and Job/Organizational Satisfaction Index, the means of six survey items (as seen in Table 5) did *not* differ significantly for the High and Low groupings of the Burnout Index.

Summary: An Answer to the First Research Question

The findings described in this section helped answer the first research question: what constitutes a possible/acceptable index for burnout? This research applied factor analysis to identify survey items that constitute a reliable construct to be used as a possible/acceptable index for burnout. The resultant burnout index consisted of the following four items (all of which had been reversed-scored, so that high scores indicate higher levels of burnout and low scores indicate lower levels of burnout:

Q83. I have too many responsibilities at work to do them all well.

Q84. I have too many bosses.

Q98. I feel stressed out because of work.

Q117. I feel mentally worn out.

Table 5

No Significant Difference in High and Low Groupings' Means for the Burnout Index

Survey Item	Levene's Test for the Equality of Variances	Significance (2-tailed)	Mean Difference
Q79 I find my work challenging.	.22		
Equal Variances Assumed		.45	-.05
Q97 My job is a large part of who I am.	.14		
Equal Variances Assumed		.78	-.02
Q100 I have a lot of great ideas for improving HQ/PEO.	.02		
Equal Variances Not Assumed		.08	-.10
Q102 I give extra effort to help HQ/PEO succeed.	.30		
Equal Variances Assumed		.37	.05
Q103 I give extra effort to help out my customers.	.34		
Equal Variances Assumed		.34	.05
	.19		
Q104 I am constantly looking for ways to do my job better.			
Equal Variances Assumed		.10	.08

Research Question Two: Demographics

For the second research question – To what extent are there differences in employees' perceptions of burnout, conditions conducive to employee engagement, and job/organizational satisfaction in relation to the following demographics: SPAWAR work unit, HQ organizational code, tenure, supervisory responsibility, age, gender, and intent to leave? – the present study provided comparative data related to these perceptions across the aforementioned demographics. It takes into consideration the following survey items and applies comparisons of unstandardized coefficients and significance as derived from linear regression analysis:

Q123. Where do you work?
Q124. What is your organizational code in HQ?
Q131. How long have you been with HQ/PEO?
Q134. What is your level of supervisory responsibility?
Q138. What is your age?
Q139. Are you male or female?
Q105. Are you considering leaving HQ/PEO?

In each case, the reference categories chosen were the responses with the highest "n" values, as the larger number of observations help to reduce standard error and decrease confidence interval width of other coefficients.

Burnout

As seen in Table 6, the Adjusted R Square values in all cases were low or non-existent and barely accounted for any of the effects explained by the regression model for demographics on Burnout (as the dependent variable) when the pooled imputations replaced missing values.

Table 6

Regression Results for Demographics and Burnout

Demographic Survey Item Demographic (Independent Variable)	Adjusted R^2 and "n"	Unstandardized Coefficient
Q123 Where do you work?	.00	
SPAWAR HQ (reference category)	n = 546	2.90
PEO C4I/SS	n = 285	.03
PEO EIS	n = 32	-.16
No work unit given	n = 7	-.11
Q124 What is your organizational code in HQ?	.03	
No HQ org code given (reference category)	n = 335	2.90
Finance	n = 100	-.38**
Contracts	n = 68	-.02
Logistics	n = 54	-.16
Engineering	n = 171	.04
Corporate Operations	n = 90	.43**
Other	n = 52	.02
Q131 How long have you been with HQ/PEO?	.01	
Six or more years (reference category)	n = 483	2.83
No tenure given	n = 110	.26*
Less than five years	n = 277	.13
Q134 What is your level of supervisory responsibility?	.00	
Non-supervisor (reference category)	n = 596	2.92
Supervisor/manager/executive	n = 129	-.15
No supervisory level given	n = 145	-.01
Q138 What is your age?	.00	
No age given (reference category)	n = 451	2.97
Under forty	n = 88	-.02
Forty or over	n = 331	-.17*
Q139 Are you male or female?	.00	
No gender given (reference category)	n = 431	2.94
Male	n = 262	-.07
Female	n = 177	-.10
Q105 Are you considering leaving HQ/PEO?	.07	
No (reference category)	n = 464	2.69
Yes, job change/opportunity related	n = 270	.60**
Yes, other reason (including to retire)	n = 136	.16

Note. * $p < .05$ (two-tailed). ** $p < .01$ (two-tailed).

Only the correlations for two of the HQ Organizational Codes – Finance and Corporate Operations – were significant. The mean of the reference category (in this case for those respondents who did not choose an HQ Organizational Code, which might in turn correspond to PEO participants) was 2.90 on a five-point Likert scale. The Burnout Index mean for those in Finance was -.38 less (or 2.52 on a five-point Likert scale). Conversely, the mean for those in Corporate Operations was .43 more (or 3.33 on a five-point Likert scale). Due to the reverse-scoring of the items making up the Burnout Index, these scores would indicate that those in Finance appear to be less burnt out while those in Corporate Operations exhibit significantly higher levels of burnout than the reference category.

Other demographics that exhibited significant correlations included: Tenure (where those who did not provide their tenure had an unstandardized coefficient of .26, which indicates their mean on the Burnout Index is 3.09 as compared to 2.83 for the reference category, i.e. those working six or more years); Age (the 'Forty or over' having -.17 less burnout than the reference category mean of 2.97 for those who did not provide their age); and Intent to Leave (for which the reference category of those not intending to leave had a mean of 2.69 and was significantly different from the mean of those leaving for a job-related opportunity for which the Burnout Index mean was .60 higher).

Conditions Conducive to Employee Engagement

When the Conditions Conducive to Employee Engagement Index (or the Engagement Conditions Index) was the dependent variable, the low or non-existent Adjusted R Square values were comparable to when Burnout was the dependent variable (as seen in Table 7). This was true in all cases except where HQ Organizational Code was

Table 7

Regression Results for Demographics and Conditions Conducive to Engagement

Demographic Survey Item Demographic (Independent Variable)	Adjusted R^2 and "n"	Unstandardized Coefficient
Q123 Where do you work?	.01	
SPAWAR HQ (reference category)	n = 546	3.82
PEO C4I/SS	n = 285	.18*
PEO EIS	n = 32	.30
No work unit given	n = 7	.00
Q124 What is your organizational code in HQ?	.22	
No HQ org code given (reference category)	n = 335	4.00
Finance	n = 100	.13
Contracts	n = 68	.19
Logistics	n = 54	.22
Engineering	n = 171	.01
Corporate Operations	n = 90	-1.45**
Other	n = 52	.03
Q131 How long have you been with HQ/PEO?	.02	
Six or more years (reference category)	n = 483	3.95
No tenure given	n = 110	-.46**
Less than five years	n = 277	.02
Q134 What is your level of supervisory responsibility?	.01	
Non-supervisor (reference category)	n = 596	3.89
Supervisor/manager/executive	n = 129	.22*
No supervisory level given	n = 145	-.19*
Q138 What is your age?	.02	
No age given (reference category)	n = 451	3.76
Under forty	n = 88	.37*
Forty or over	n = 331	.25*
Q139 Are you male or female?	.01	
No gender given (reference category)	n = 431	3.82
Male	n = 262	.20*
Female	n = 177	.08
Q105 Are you considering leaving HQ/PEO?	.13	
No (reference category)	n = 464	4.17
Yes, job change/opportunity related	n = 270	-.80**
Yes, other reason (including to retire)	n = 136	-.16

Note. * $p < .05$ (two-tailed). ** $p < .01$ (two-tailed).

to be chosen (i.e., Q124) with an Adjusted R Square value of .22, as well as for Q105 Leave Intent with an Adjusted R Square of .13.

As compared to the preceding findings related to the Burnout Index, there were more instances where correlations were found to be significant (see Table 7). However, similar to the Burnout Index, the highest unstandardized coefficients were again found in the following: HQ Organizational Code when 'Corporate Operations' was chosen (resulting in a negative correlation with a -1.45 unstandardized coefficient, indicating the perception of engagement conditions was that much lower in favorable agreement than the reference category mean of 4.00); when no Tenure was given (resulting in a negative correlation with a -.46 unstandardized coefficient less than the reference category mean of 3.95 for those with six or more years of tenure); Age (this time positive for both those 'Under 40' and those '40 and over' with increases above the reference category mean of 3.76 when no age was selected by .37 and .25 respectively); and with regard to Intent to Leave (where the reference category mean of those not intending to leave was 4.17 but would be -.80 less for those intending to leave for a job-related opportunity).

Other significant correlations that appeared here with regard to Engagement Conditions that had not appeared for the Burnout Index included: Work Unit (with PEO C4I/Space Systems having a mean .18 higher than the 3.82 of SPAWAR HQ, which was the reference category); Supervisory Responsibility (where the reference category of non-supervisors had a mean of 3.89 with the mean of supervisors/managers/executives being .22 higher and the mean of those choosing to not answer the question being -.19 lower); and Gender (for males had a mean .20 significantly higher than the reference category mean of 3.82 for respondents who did not select a gender).

Job/Organizational Satisfaction

As seen in Table 8, the Adjusted R Square values in almost all cases were again low or non-existent for the regression models for demographics on Job/Organizational Satisfaction (as the dependent variable). Similar to the aforementioned instance where the Engagement Conditions Index was the dependent variable, the Adjusted R Squares for Q124 (HQ Organizational Code) and Q105 (Leave Intent) were the only somewhat larger Adjusted R Square values of note (.21 and .19 respectively).

Similar to the Engagement Conditions Index, there were quite a few instances where correlations were found to be significant (see Table 8). The highest unstandardized coefficients were again found in the following: HQ Organizational Code when 'Corporate Operations' was chosen (resulting in a negative correlation with a -1.57 unstandardized coefficient, indicating job/organizational satisfaction was that much less than the reference category mean of 3.84 that represents favorable agreement) as well as when 'Contracts' was chosen (resulting in a positive correlation with a .28 unstandardized coefficient, indicating job/organizational satisfaction was that much more than the reference category mean); when no Tenure was given (resulting in a negative correlation with a -.50 unstandardized coefficient less than the reference category mean of 3.77 for those with six or more years of tenure); Age (again positive for both those 'Under 40' and those '40 and over' with increases above the reference category mean of 3.57 when no age was selected by .41 and .27 respectively); and with regard to Intent to Leave (where the reference category mean of those not intending to leave was 4.09 but would be -1.10 less for those intending to leave for a job-related opportunity and -.23 less for those leaving for other reasons).

Table 8

Regression Results for Demographics and Job/Organizational Satisfaction

Demographic Survey Item Demographic (Independent Variable)	Adjusted R^2 and "n"	Unstandardized Coefficient
Q123 Where do you work?	.01	
SPAWAR HQ (reference category)	n = 546	3.63
PEO C4I/SS	n = 285	.21*
PEO EIS	n = 32	.33
No work unit given	n = 7	-.14
Q124 What is your organizational code in HQ?	.21	
No HQ org code given (reference category)	n = 335	3.84
Finance	n = 100	.20
Contracts	n = 68	.28*
Logistics	n = 54	.22
Engineering	n = 171	-.14
Corporate Operations	n = 90	-1.57**
Other	n = 52	.13
Q131 How long have you been with HQ/PEO?	.02	
Six or more years (reference category)	n = 483	3.77
No tenure given	n = 110	-.50**
Less than five years	n = 277	.00
Q134 What is your level of supervisory responsibility?	.01	
Non-supervisor (reference category)	n = 596	3.69
Supervisor/manager/executive	n = 129	.34**
No supervisory level given	n = 145	-.14
Q138 What is your age?	.02	
No age given (reference category)	n = 451	3.57
Under forty	n = 88	.41**
Forty or over	n = 331	.27**
Q139 Are you male or female?	.00	
No gender given (reference category)	n = 431	3.64
Male	n = 262	.21*
Female	n = 177	.06
Q105 Are you considering leaving HQ/PEO?	.19	
No (reference category)	n = 464	4.09
Yes, job change/opportunity related	n = 270	-1.10**
Yes, other reason (including to retire)	n = 136	-.23*

Note. * $p < .05$ (two-tailed). ** $p < .01$ (two-tailed).

As with the Engagement Conditions Index, other significant correlations that appeared here included: Work Unit (with PEO C4I/Space Systems having a mean .21 higher than the 3.63 of SPAWAR HQ, which was the reference category); Supervisory Responsibility (where the reference category of non-supervisors had a mean of 3.69 with the mean of supervisors/managers/executives being .34 higher); and Gender (for males had a mean .21 significantly higher than the reference category mean of 3.64 for respondents who did not select a gender).

Summary: An Answer to the Second Research Question

The findings described in this section helped answer the second research question (i.e., To what extent are there differences in employees' perceptions of burnout, conditions conducive to employee engagement, and job/organizational satisfaction in relation to the following demographics: SPAWAR work unit, HQ organizational code, tenure, supervisory responsibility, age, gender, and intent to leave?). This research applied linear regression to identify demographic variables that significantly correlated with the three indices under examination and to what degree.

Across all three indices, the following demographic variables showed significance: organizational code within HQ (in particular when 'Corporate Operations' was chosen); age and tenure (especially when no response was provided); and intent to leave (when there was 'No' intent and when leaving was due to job change/opportunity). While the following three demographic variables did not exhibit significant correlations with regard to the Burnout Index, they for both the Engagement Conditions Index and the Job/Organizational Satisfaction Index: SPAWAR Work Unit (when PEO C4I/Space Systems was compared to the reference category SPAWAR HQ); Supervisory

Responsibility; and Gender (particularly Males as compared to the reference category of no gender given).

Research Question Three: Moderation

For the third research question – Does burnout moderate the relationship between the conditions conducive to employee engagement and job/organizational satisfaction? – referring back to Figure 3 (from Chapter 3) for the model of job/organizational satisfaction tested in the present study. The hypotheses tested were informed by Baron and Kenny's (1986) work related to the determination of moderators in psychological research. The index variables in the following regression equations were centralized prior to calculation by subtracting the series mean from each score. This resulted in a mean of zero for each index and a standard deviation value of 1. The resultant *z-scores* for the Engagement Conditions Index and the Burnout Index were entered as predictor variables along with their computed product variable (or Moderator) and the z-score of the Job/Organizational Satisfaction Index was the dependent variable.
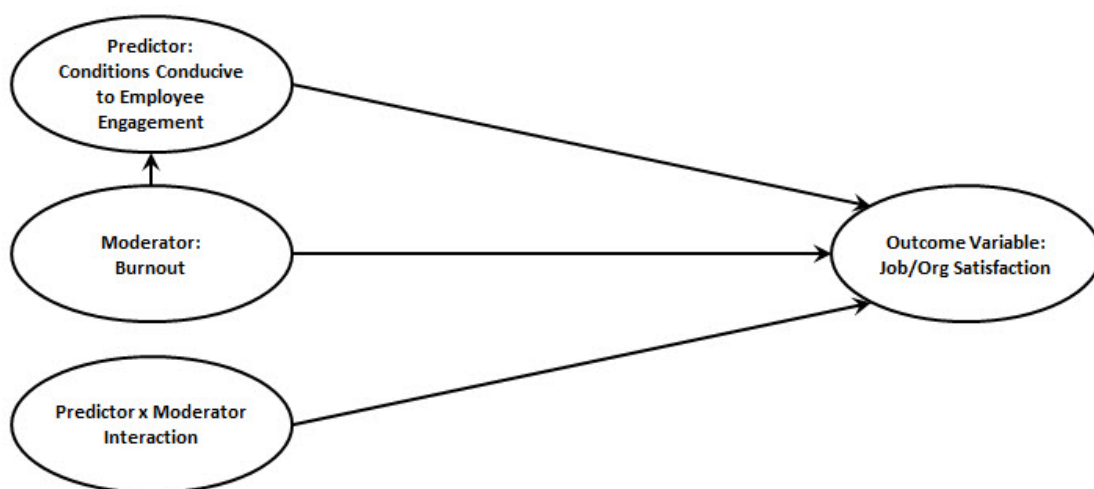
Figure 3. Model of Job/Organizational Satisfaction.

Index Level

  Hypothesis 1. The first hypothesis was that perceptions of conditions conducive

to employee engagement will account for a significant percentage of the variance in

job/organizational satisfaction. To test Hypothesis 1, perceptions of conditions conducive

to employee engagement were entered in the first step of a regression analysis where

job/organizational satisfaction was the dependent variable. As seen in Table 9, at the

index level (i.e., where the Engagement Conditions Index was the predictor), the

Adjusted R Square value was relatively high and accounted for 78% of the effects

explained by the regression model (Model I) where Job/Organizational Satisfaction was

the dependent variable and pooled imputations replaced missing values. The positive

correlation was significant with a p-value of the .00 and the unstandardized coefficient

was .89. These findings thus affirmatively support Hypothesis 1.

  Hypothesis 2. The second hypothesis was that burnout (as the independent

variable) will be negatively related to job/organizational satisfaction. As seen in Table 9,

at the index level (i.e., where the Burnout Index was added as a predictor in Model II),

the Adjusted R Square value was again high and now accounted for 79% of the effects

explained by the regression model where Job/Organizational Satisfaction was the

dependent variable and when pooled imputations replaced missing values. The negative

correlation was significant with a p-value of the .00 and the unstandardized coefficient

was -.11 for the Burnout Index as an additional independent variable. These findings thus

positively support Hypothesis 2 and indicate that while the Engagement Conditions Index

results in an increased aggregate positive (or favorable) response to Job/Organizational

Satisfaction of .85 on a five-point Likert scale, the Burnout Index results in a decrease of

-.11 on a five-point Likert scale.

Table 9

Regression Results for a Moderating Interaction of Burnout with Engagement
Conditions on Job/Organizational Satisfaction

	Unstandardized Coefficients		
Model (and Adjusted R^2)	I (.78)	II (.79)	III (.79)
(Constant)	-7.20	-6.62	.00
Engagement Conditions Index	.89**	.85**	.85**
Burnout Index		-.11**	-.11**
Engagement Conditions Index x Burnout Index			.01

Note. ** $p < .01$ (two-tailed).

Hypothesis 3. The third hypothesis was that the interaction between perceptions

of conditions conducive to employee engagement and of burnout would account for a

significant percentage of the variance in job/organizational satisfaction, and result in

levels lower than that resulting from Hypothesis 1. To test Hypothesis 3, the interaction

between perceptions of conditions conducive to employee engagement and burnout was

entered in step 3. As seen in Table 9, the Adjusted R Square value for Model III

remained .79. The unstandardized coefficients were also unchanged.

The interaction variable (created by multiplying the two), however, was not found

to be significant. As a result, this hypothesis was not supported, and therefore, burnout

does not appear to act as a moderator of the relationship between perceptions of

conditions conducive to employee engagement and job/organizational satisfaction.

Item Level

When the preceding multiple regression models are run at the survey item level for Burnout (vice the index level as was previously done) with the Conditions Conducive to Employee Engagement and Job/Organizational Satisfaction still as indices, the results can be seen in Table 10. This tests whether any of the individual items making up the Burnout Index would act as a moderator (despite the Index Level not having done so).

Hypothesis 1. The first hypothesis is unaffected/unchanged since the substitution of the Burnout Index with its individual survey items as possible moderators does not involve the Engagement Conditions Index. The Adjusted R Square value still accounts for 78% of the effects explained by Model I where Job/Organizational Satisfaction was the dependent variable and pooled imputations replaced missing values. The positive correlation is significant with a p-value of the .00 and an unstandardized coefficient of .89. Again, these findings positively support Hypothesis 1.

Hypothesis 2. Looking at the item level unstandardized coefficient and significance values (Table 10), of note, while all of the survey items were significant with p-values of .00 for Model II, the resultant unstandardized coefficients varied. For both Q98 (I am stressed because of work) and Q117 (I feel mentally worn out) the unstandardized coefficient was -.10. The remaining two survey items – Q83 (I have too many responsibilities to do them all well) and Q84 (I have too many bosses) – the unstandardized coefficientswere-.07 and -.05 respectively. These findings all affirmatively support Hypothesis 2.

Table 10

Regression Results for a Moderating Interaction of Burnout Index Items with Engagement Conditions on Job/Organizational Satisfaction

	Unstandardized Coefficients		
Model (and Adjusted R^2)	I (.78)	II (.79)	III (.79)
(Constant)	-7.20	-7.24	.00
Engagement Conditions Index	.89**	.88**	.88**
Q83. I have too many responsibilities to do them all well.		-.07**	-.07**
Engagement Conditions Index x Q83			.00
Model (and Adjusted R^2)	I (.78)	II (.79)	III (.79)
(Constant)	-7.20	-7.05	.00
Engagement Conditions Index	.89**	.87**	.87**
Q84. I have too many bosses.		-.05**	-.06**
Engagement Conditions Index x Q84			-.01
Model (and Adjusted R^2)	I (.78)	II (.79)	III (.79)
(Constant)	-7.20	-6.88	.01
Engagement Conditions Index	.89**	.85**	.84**
Q98. I am stressed out because of work.		-.10**	-.10**
Engagement Conditions Index x Q98			.02
Model (and Adjusted R^2)	I (.78)	II (.79)	III (.79)
(Constant)	-7.20	-7.01	.00
Engagement Conditions Index	.89**	.86**	.86**
Q117. I am mentally worn out.		-.10**	-.11**
Engagement Conditions Index x Q117			-.01

Note. ** $p < .01$ (two-tailed).

Hypothesis 3. To test Hypothesis 3, the interaction between perceptions of conditions conducive to employee engagement and each survey item making up the Burnout Index was entered in step 3. As seen in Table 10 (and as was the case with Model II), the Adjusted R Square value for all instances of Model III was consistently .79. In all cases, significance was still not found. In terms of the unstandardized coefficients for Engagement Conditions and each of the Burnout related survey items, no

changes were seen between Models II and III of Q83 and only slight changes between the others.

Correlation between Indices

Although a moderating relationship was not found where an interaction variable was created with the Conditions Conducive to Employee Engagement (or the Engagement Conditions Index) and Burnout (both at the index and item level), separately both did correlate with Job/Organizational Satisfaction (the former positively and the latter negatively).

Engagement Conditions and Job/Organizational Satisfaction as an Index. As seen in Table 11, conditions conducive to employee engagement account for a significant percentage of the variance in job/organizational satisfaction at its overall index level, for the Adjusted R Square value was relatively high and accounted for 80% of the effects explained by the regression model (where Job/Organizational Satisfaction was the dependent variable and pooled imputations replaced missing values). At the individual survey item level for the questions that make up the Engagement Conditions Index, six of ten items resulted in a positive correlation where the p-value was .00 (indicating significance). Among those six items, three had standardized coefficients of .11 (i.e., Q19, Q38, and Q81), while one item (Q64) had double that amount (.22) and the remaining two others (Q77 and Q82) had standardized coefficients of .18. Thus indicating that the latter three would result in a higher increased aggregate positive (or favorable) response to Job/Organizational Satisfaction on a five-point Likert scale. On the

Table 11

Regression Results for Conditions Conducive to Employee Engagement (as Independent Variables at the Item Level) on Job/Organizational Satisfaction (as the Dependent Variable at the Index Level)

Engagement Conditions Index Survey Item	Standardized Coefficient
Q19 Supervisors/team leaders in my work unit support employee development.	.11**
Q38 I feel encouraged to come up with new and better ways of doing things.	.11**
Q59 Managers communicate the goals and priorities of the organization.	.04
Q64 In my organization, leaders generate high levels of motivation and commitment to the workforce.	.22**
Q66 I have trust and confidence in my supervisor.	.07
Q67 My supervisor/team leader treats me with respect.	.03
Q77 My organization's leaders maintain high standards of honesty and integrity.	.18**
Q81 My talents are used well in the workplace.	.11**
Q82 My work gives me a feeling of personal accomplishment.	.18**
Q85 Overall, how good of a job do you feel is being done by your immediate supervisor/team lead?	.05
	Adjusted R^2= 0.80

Note. ** $p < .01$ (two-tailed).

other hand, the following four survey items were not significantly correlated: Q59, Q66, Q67 and Q85.

      Engagement Conditions and Job Satisfaction (Q92). When broken down into its component survey items, as seen in Table 12, conditions conducive to employee engagement again account for a significant percentage of the variance in the area of job satisfaction specifically, for the Adjusted R Square value was relatively high and accounted for 69% of the effects explained by this regression model. At the individual survey item level for the questions that make up the Engagement Conditions Index, again six of ten items resulted in a positive correlation at a p-value less than or equal to .05 thus indicating significance. Among those six items, five had standardized coefficients of .10 to .15 (i.e., Q19, Q64, Q77, Q81, and Q85), while one item (Q82) had a standardized coefficient of .25. Thus indicating that favorable responses to Q82 (My work gives me a feeling of personal accomplishment) result in a higher increased aggregate positive (or favorable) response to Job Satisfaction on a five-point Likert scale. Conversely, Q38, Q59, Q66, and Q67 were found to not be significantly correlated to Q92 Job Satisfaction.

Table 12

Regression Results for Conditions Conducive to Employee Engagement (as Independent Variables at the Item Level) on Q92 (Job Satisfaction)

Engagement Conditions Index Survey Item	Standardized Coefficient
Q19 Supervisors/team leaders in my work unit support employee development.	.13**
Q38 I feel encouraged to come up with new and better ways of doing things.	.06
Q59 Managers communicate the goals and priorities of the organization.	.03
Q64 In my organization, leaders generate high levels of motivation & commitment to the workforce.	.11**
Q66 I have trust and confidence in my supervisor.	.01
Q67 My supervisor/team leader treats me with respect.	.03
Q77 My organization's leaders maintain high standards of honesty and integrity.	.15**
Q81 My talents are used well in the workplace.	.14**
Q82 My work gives me a feeling of personal accomplishment.	.25**
Q85 Overall, how good of a job do you feel is being done by your immediate supervisor/team lead?	.10*
	Adjusted R^2= 0.69

Note. * $p < .05$ (two-tailed). ** $p < .01$ (two-tailed).

Engagement Conditions and Organizational Satisfaction (Q93). As shown in Table 13, conditions conducive to employee engagement again account for a slightly more significant percentage of the variance in the area of organizational satisfaction, for the Adjusted R Square value was relatively high and accounted for 73% of the effects explained by this regression model. In this case, seven of ten Engagement Condition survey items resulted in a positive correlation at a p-value less than or equal to .05 thus indicating significance. Among those seven items, five had standardized coefficients of .07 to .13 (i.e., Q19, Q38, Q81, Q82, and Q85), while two items (Q64 and Q77) had standardized coefficients of .27 and .21 respectively. Thus indicating that favorable responses to Q64 (In my organization, leaders generate high levels of motivation and commitment to the workforce) and Q77 (My organization's leaders maintain high standards of honesty and integrity) result in a higher increased aggregate positive (or favorable) response to Organizational Satisfaction on a five-point Likert scale. Conversely, Q19, Q59, Q66, Q67, and Q85 were found to not be significantly correlated to Q93 Organizational Satisfaction.

Engagement Conditions and Recommendation of Organization (Q109). Table 14 depicts the regression model of the survey items making up engagement conditions with the third Job/Organizational Satisfaction survey item Q109 (I would recommend my organization as a good place to work) as the dependent variable. As seen, conditions conducive to employee engagement this time account for an even higher percentage of the variance in terms of whether respondents would recommend their organization as a

Table 13

Regression Results for Conditions Conducive to Employee Engagement (as Independent Variables at the Item Level) on Q93 (Organizational Satisfaction)

Conditions Conducive to Employee Engagement	Standardized Coefficient
Q19 Supervisors/team leaders in my work unit support employee development.	.07
Q38 I feel encouraged to come up with new and better ways of doing things.	.12**
Q59 Managers communicate the goals and priorities of the organization.	.03
Q64 In my organization, leaders generate high levels of motivation and commitment to the workforce.	.27**
Q66 I have trust and confidence in my supervisor.	.02
Q67 My supervisor/team leader treats me with respect.	.02
Q77 My organization's leaders maintain high standards of honesty and integrity.	.21**
Q81 My talents are used well in the workplace.	.08*
Q82 My work gives me a feeling of personal accomplishment.	.13**
Q85 Overall, how good of a job do you feel is being done by your immediate supervisor/team lead?	.08
	Adjusted R^2 = 0.73

Note. * $p < .05$ (two-tailed). ** $p < .01$ (two-tailed).

Table 14

Regression Results for Conditions Conducive to Employee Engagement (as Independent Variables at the Item Level) on Q109 (Recommendation of Organization as a Good Place to Work)

Engagement Conditions Index Survey Item	Standardized Coefficient
Q19 Supervisors/team leaders in my work unit support employee development.	.12**
Q38 I feel encouraged to come up with new and better ways of doing things.	.11**
Q59 Managers communicate the goals and priorities of the organization.	.05
Q64 In my organization, leaders generate high levels of motivation and commitment to the workforce.	.26**
Q66 I have trust and confidence in my supervisor.	.12*
Q67 My supervisor/team leader treats me with respect.	.03
Q77 My organization's leaders maintain high standards of honesty and integrity.	.16**
Q81 My talents are used well in the workplace.	.03
Q82 My work gives me a feeling of personal accomplishment.	.16**
Q85 Overall, how good of a job do you feel is being done by your immediate supervisor/team lead?	.00
	Adjusted R^2= 0.80

Note. * $p < .05$ (two-tailed). ** $p < .01$ (two-tailed).

good place to work. The Adjusted R Square value accounts for 80% of the effects explained by this regression model. Six of ten Engagement Condition survey items resulted in a positive correlation at a p-value less than or equal to .05 thus indicating significance. Among those six items, five had standardized coefficients of .11 to .16 (i.e., Q19, Q38, Q66, Q77, and Q82), while Q64 (In my organization, leaders generate high levels of motivation and commitment to the workforce) had a standardized coefficient of .26. Thus indicating that favorable responses to Q64 result in a higher increased aggregate positive (or favorable) response to whether respondents would recommend their organization as a good place to work on a five-point Likert scale. Meanwhile, Q59, Q67, Q81, and Q85 were found to not be significantly correlated to Q109.

Burnout and Job/Organizational Satisfaction as an Index. As seen in Table 15, the survey items making up the Burnout Index account for a low percentage of the variance (24%) in job/organizational satisfaction at its overall index level. Three of the four survey items making up the Burnout Index resulted in significant correlations where the p-value was .00. The first, Q83, was positively correlated and the other two (Q84 and Q98) were negatively correlated. It is unclear why Q83 (I have too many responsibilities at work to do them all well), which was reverse-scored to account for its wording (similar to Q84, Q98, and Q117) would be positively correlated. A higher score on Q83 would indicate stronger agreement with the statement and a higher score (by .14) on the Job/Organizational Satisfaction Index.

Burnout and Job Satisfaction (Q92). As seen in Table 16, The survey items making up the Burnout Index account for even less (21%) of the variance in job satisfaction (Q92) alone. In terms of significance and standardized coefficients, values were similar to those at the index level.

Table 15

Regression Results for Burnout (at the Item Level) on Job/Organizational Satisfaction (at the Index Level)

Burnout Index Survey Item	Standardized Coefficient
Q83 I have too many responsibilities at work to do them all well.	.14**
Q84 I feel like I have too many bosses.	-.30**
Q98 I am stressed out because of work.	-.37**
Q117 I feel mentally worn out.	-.01
	Adjusted R^2= 0.24

Note. ** $p < .01$ (two-tailed).

Table 16

Regression Results for Burnout (as Independent Variables at the Item Level) on Q92 (Job Satisfaction)

Burnout Index Survey Item	Standardized Coefficient
Q83 I have too many responsibilities at work to do them all well.	.12**
Q84 I feel like I have too many bosses.	-.26**
Q98 I am stressed out because of work.	-.35**
Q117 I feel mentally worn out.	-.02
	Adjusted R^2= 0.21

Note. ** $p < .01$ (two-tailed).

Burnout and Organizational Satisfaction (Q93 and Q109). As seen in Tables 17 and 18, the results are similar for Q93 (Organizational Satisfaction) and Q109 (Recommendation as a Good Place to Work). The survey items making up the Burnout Index account for 21% and 23% of the variance for those items respectively as dependent variables. In terms of significance and

standardized coefficients, values were similar to those at the index level and for Q92 (Job

Satisfaction) as previously discussed.

Table 17

Regression Results for Burnout (as Independent Variables at the Item Level) on Q93 (Organizational Satisfaction)

Burnout Index Survey Item		Standardized Coefficient
Q83	I have too many responsibilities at work to do them all well.	.12**
Q84	I feel like I have too many bosses.	-.28**
Q98	I am stressed out because of work.	-.34**
Q117	I feel mentally worn out.	-.03
		Adjusted R^2= 0.21

Note. ** p < .01 (two-tailed).

Table 18

Regression Results for Burnout (as Independent Variables at the Item Level) on Q109 (Recommendation of Organization as a Good Place to Work)

Burnout Index Survey Item		Standardized Coefficient
Q83	I have too many responsibilities at work to do them all well.	.15**
Q84	I feel like I have too many bosses.	-.31**
Q98	I am stressed out because of work.	-.37**
Q117	I feel mentally worn out.	.02
		Adjusted R^2= 0.23

Note. ** p < .01 (two-tailed).

Summary: An Answer to the Third Research Question

The findings described in this section helped answer the third research question (i.e., Does burnout moderate the relationship between the conditions conducive to employee engagement and job/organizational satisfaction?). This research applied linear regression at both the Burnout index and item levels, where the Engagement Conditions Index and its interaction with burnout served as the other predictors (with Job/Organizational Satisfaction as the dependent variable). The correlation was positive in the case of Engagement Conditions and negative in the case of Burnout. The interaction variable computed between the predictor variables, however, was not significantly related, thus indicating that Burnout does not moderate the relationship between the Conditions Conducive to Engagement and Job/Organizational Satisfaction.

CHAPTER FIVE

DISCUSSION

This chapter presents a summary of the study including its purpose, guiding research

questions, and an overview of the research methods. The analytical findings from Chapter Four

are also summarized in this chapter as a basis for the discussion that is the focus of Chapter Five.

This chapter will then discuss the implications of the findings. Finally, this chapter will address

the limitations and delimitations of the study as well as recommendations for future researchers

and practitioners. The chapter closes describing the significance of the study.

Purpose of the Study

The purpose of this study, based on the 2017 Organizational Assessment Survey (OAS)

administered to my employer, SPAWAR, was to apply correlational techniques to explore the

viability of several proposed indices, and multiple linear regression analysis to test for the

significance of variables related to burnout, engagement conditions, and job/organizational

satisfaction. The following research questions guided this study:

1. What constitutes a possible/acceptable index for burnout?

2. To what extent are there differences in employees' perceptions of burnout, conditions
    conducive to employee engagement, and job/organizational satisfaction in relation to
    the following demographic measures: SPAWAR work unit, HQ organizational code,
    tenure, supervisory responsibility, age, gender, and intent to leave?

3. Does burnout moderate the relationship between the conditions conducive to
    employee engagement and job/organizational satisfaction?

Review of Methodology

Based on the 2017 Organizational Assessment Survey (OAS) administered to my employer, SPAWAR, the methodology of this study consisted of correlational techniques used to explore proposed index viability and multiple linear regression analysis. Initially, preliminary exploratory factor analysis was conducted on the entire dataset, followed by reliability testing that aided in index development.

Prior to these steps, however, missing values needed to be addressed. In order to determine how to best handle instances of missing data, it first had to be determined whether or not data were missing completely at random (MCAR). Although MCAR did not prove to be applicable to the dataset under examination, for comparative purposes, the results using Series Mean as a substitute for missing values (as well as excluding responses altogether that contained missing values via list-wise deletion, which dropped the n value from 870 responses to 267) were included in the analysis tables presented for Research Question One. For Research Questions Two and Three, multiple imputation (i.e., where missing values are substituted based on regression calculations across a respondent's provided answers) served as the dataset under examination.

The methodology then turned to examine the significance of various demographic measures. Lastly, correlational and multiple linear regression techniques were employed to test for the significance of variables amongst/between the indices for burnout, conditions conducive to employee engagement, and job/organizational satisfaction.

Summary of Findings

Chapter Four provided extensive detail on the research findings; therefore, only a brief overview of the findings will be presented in this chapter. Each of the three research questions will be addressed separately.

Research Question One

These findings helped answer the first research question: what constitutes a possible/acceptable index for burnout? The research applied factor analysis to identify survey items that constitute a reliable construct to be used as a possible/acceptable index for burnout. An exploratory factor analysis on the 122 survey items (listed in the Appendix) across all datasets produced a 13-component solution. The focus of the examination then turned to the component under which the following five survey items grouped: Q31. My workload is reasonable; Q83. I have too many responsibilities at work to do them all well; 84. I feel like I have too many bosses; 98. I am stressed out because of work; and Q117. I feel mentally worn out.

This component was of particular interest because of the grouping of items related to expressed exhaustion and workload related demands, thus indicating a possible viable index for burnout. To test its reliability as an index for burnout, Cronbach's Alpha was employed as a test for a coefficient of internal consistency. The proposed construct resulting from the aforementioned grouping of variables under this component did meet the minimum alpha coefficient criteria after Q31 was removed. This construct had internal reliability above .70 suggesting that the remaining four variables reliably measure burnout. Similarly, reliability testing was applied to the indices to be used for measuring the Conditions Conducive to Employee Engagement and Job/Organizational Satisfaction. Those results also demonstrated Alpha Coefficients well above .70.

Research Question Two

The second research question was as follows: To what extent are there differences in employees' perceptions of burnout, conditions conducive to employee engagement, and job/organizational satisfaction in relation to the following demographics – SPAWAR work unit, HQ organizational code, tenure, supervisory responsibility, age, gender, and intent to leave? Following the creation of categorical (dummy) variables (including instances where no answer was provided), the research applied linear regression to identify demographic variables that significantly correlated with the three indices under examination. Most consistently, the following demographic variables showed significance: HQ organizational code (in particular when 'Corporate Operations' was chosen); age and tenure (especially when no response was provided); and intent to leave (when there was 'No' intent and when leaving was due to job change/opportunity).

Research Question Three

The findings described in this section helped answer the third research question (i.e., Does burnout moderate the relationship between the conditions conducive to employee engagement and job/organizational satisfaction?).Once again, the research applied linear regression; this time at both the index and item levels, where the Conditions Conducive to Employee Engagement and Burnout served as the predictors (and were found to significantly correlate to) Job/Organizational Satisfaction as the dependent variable. The interaction variable computed between the predictor variables, however, was not significantly related, thus indicating that Burnout does not moderate the relationship between the Conditions Conducive to Engagement and Job/Organizational Satisfaction.

Discussion of Findings

Missingness

Prior to any analyses being conducted, the decision had to be made of how to deal with the *missingness* of responses. As was previously stated, the sample dropped from 870 to 267 when list-wise deletion was applied. The number of responses deleted would have been even greater if list-wise deletion had been applied to demographic variables as well. Those, however, remained untouched and large groupings where no answer was provided ended up serving as another "dummy" categorical variable. This allowed for the examination of the effects of those who chose not to provide certain demographic information and what this might say about them as a group.

Despite the different treatments applied to deal with missing responses, as was seen in Tables 1 and 2, the resultant exploratory factor analysis results and reliability test outcomes did not highly differ. As a result, Research Questions Two and Three utilized only the resultant (pooled) dataset from the application of multiple imputations. What is of interest in this area is what survey items appeared to be disproportionately left unanswered as compared to other survey items. In particular, "Q73. Employees are treated fairly in HQ/PEO" and "Q74. To what extent is prejudice, discrimination and/or harassment a problem in HQ/PEO?" The former had 61 non-responses (i.e., 13.35 times more than the average of 4.57 non-responses per non-demographic survey item) and the latter had 210 responses of "6 – Don't Know" (i.e., 10.26 times more than the average of 20.47 occurrences of "6 – Don't Know" per non-demographic survey item).

The missingness related to demographic survey items was even higher and more disproportionate, for 12% of respondents chose not to disclose their years of tenure, 17% their

supervisory level, 52% their age, and 50% their gender. While 38% did choose not to select an HQ organizational code, this was likely attributable to non-HQ (or PEO) employees not identifying with the HQ organizational code structure. People who were reluctant to answer the demographic questions also scored lower on average and were more likely to omit other answers as well. With half of the respondents not disclosing their gender and slightly more than half not disclosing their age, it is not possible to get a true indication of how these different groups actually responded. Of note, however, with regard to those individuals who did identify their gender, females left more responses unanswered than men at a ratio of 9:7 (i.e., 135 versus 105). This is in comparison to SPAWAR's female to male ratio of 1:3, for which one would thus expect these ratios to be more similar.

Aggregating individual scores into an average per person, those who omitted any of the demographic questions scored the survey items consistently lower than those who disclosed all of their demographic information (e.g., 3.6 or less as compared to an average of 3.9). With those not disclosing their demographic information seeming to have a less favorable overall (aggregated) response, the question becomes whether making such items mandatory should be considered to make further analysis accomplishable. As cited by Edith D. de Leeuw1, Joop J. Hox1, and Anja Boeve (2016), however, "Making a response mandatory automatically reduces the amount of item missing answers to zero, but may have other undesirable effects. Both Couper (2008) and Dillman, Smyth, and Christian (2009) argue that a mandatory response goes against the ethical norm of voluntariness in a survey and may annoy respondents" (p. 116).

Burnout

As recently as 18 December 2018, an article appeared on Government Executive (www.govexec.com) entitled "Is the Federal Workforce Reaching Its Breaking Point?" (Risher,

2018). In it, the author describes a federal agency where "employees for too many years have had to live with excessive hours, lack of control over workloads, and management actions that are seen as unfair. The anger is evident. Stress levels are high" (Risher, 2018). Likewise, the catalyst for this study was 2016 SPAWAR Headquarters-wide survey results that showed comparatively high scores for a category called "Exhaustion" based on responses to one item "I feel mentally worn out." Because the military agency that administers the survey does not provide agencies with their raw survey results, there was no way to correlate responses to this question with that of others to gain further insight. Whether an HQ organizational code scored more favorably and consistently across other survey categories (as was the case for Finance, Contracts, and Logistics) or was lower-scoring (like Corporate Operations and Engineering), all departments had similarly lower scores for Exhaustion. The following year (2017), the survey item was rewritten to state "I am mentally resilient" and with that wording change, scores went from predominantly unfavorable to favorable.
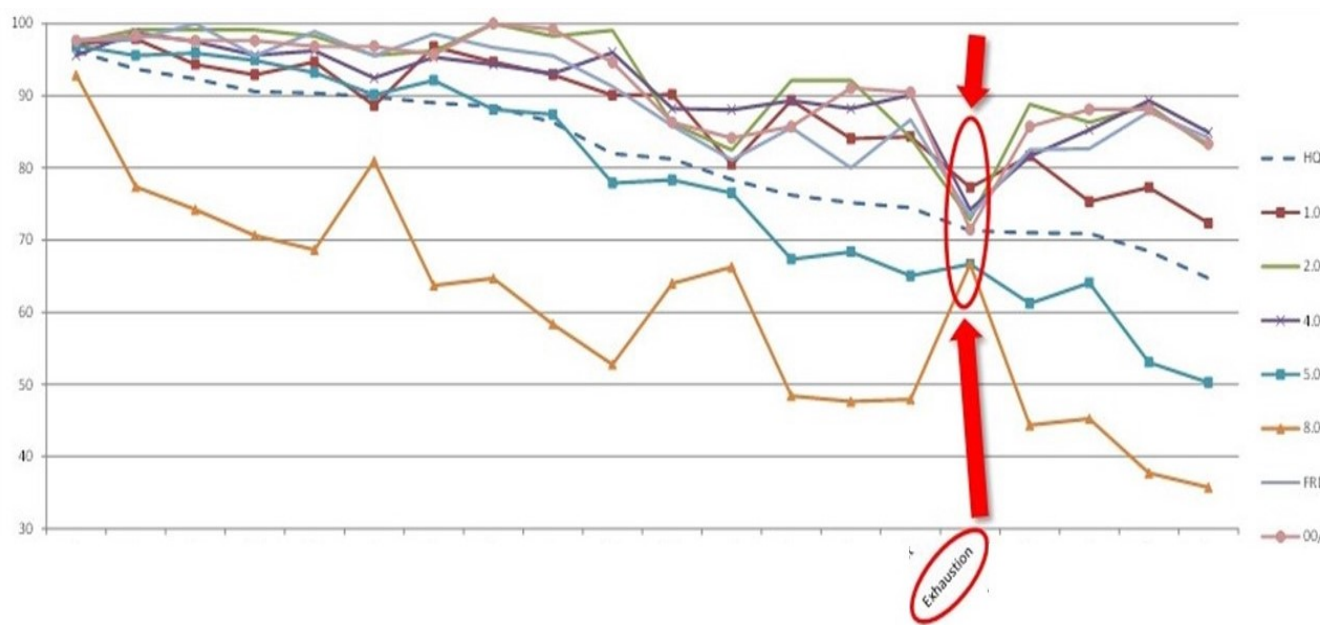

Figure 4. HQ Organizational Codes' Percentage Favorable Scores on Exhaustion in 2016.

With the ability to add locally developed survey items to the 2017 OAS, "I feel mentally worn out" was included. As seen in the findings of Research Question One, exploratory factor analysis (followed by reliability tests) confirmed the grouping of this item with the following four others: Q31. My workload is reasonable; Q83. I have too many responsibilities at work to do them all well; Q84. I feel like I have too many bosses; and Q98. I am stressed out because of work. This corresponds to the following in the aforementioned article:

> For government employees, the commitment to public service can be an important motivator to the point that, for many, it's their life purpose. That can be problematic if the work experience turns so negative the best action is to walk away. Inadequate agency resources, unmanageable workloads, co-workers who are disgruntled, or newly elected or appointed leaders who shift an agency's focus to new, politically-driven goals can make each month increasingly stressful, and it can go on for years. (Risher, 2018)

Yet, as was pointed out in Chapter Two by Demerouti and Bakker (2007) with regard to their proposal of the Oldenburg Burnout Inventory (OLBI) as an alternative to the MBI, responses to similarly framed items might artificially cluster together. In this case, along with Q117 (I feel mentally worn out), which was reversed scored, so were Q83, Q84, and Q98. Out of the five items that initially grouped together via factor analysis, only Q31 (My workload is reasonable) was not reverse-scored. As was stated previously, Q31 dropped out in two treatments of missing values and had to be removed per subsequent reliability tests. On the other hand, the clustering of these five items does seem to be supported by Schaufeli's and Bakker's (2004) Job Demands-Resources (JD-R) Model, which posits that the performance of burned out employees might be improved through management's efforts to reduce excessive job demands (e.g., by providing employees with a clearer task focus or through adjustment of their workload).

Demographics

As stated in the summary of the findings for Research Question Two, the following demographic variables showed significance across all three indices: HQ organizational code (in particular when 'Corporate Operations' was chosen); age and tenure (especially when no response was provided); and intent to leave (when there was 'No' intent and when leaving was due to job change/opportunity). For the purposes of this discussion, these three demographic areas will be examined separately, in addition to differences related to supervisory responsibility that merit further discussion.

Other demographics that showed significance included those who marked themselves as male positively correlating to both the Engagement Conditions Index and the Job/Organizational Index (with unstandardized coefficients of .20 and .21 respectively above the reference category means of 3.82 and 3.64 for those who did not disclose their gender). In addition, PEO C4I/Space System respondents exhibited significantly higher means of .18 above SPAWAR HQ's reference category mean of 3.82 for Engagement Conditions and .21 above HQ's reference category mean of 3.63 for Job/Organizational Satisfaction.

HQ Organizational Code. Across all three indices – Burnout, Conditions Conducive to Employee Engagement (or Engagement Conditions Index), and Job/Organizational Satisfaction – the highest unstandardized coefficients (in this case in the negative direction) where significance was found was related to Corporate Operations being selected as a respondent's HQ organizational code. This is not surprising, for as was reported to SPAWAR leadership in the overall briefing of HQ OAS results, Corporate Operations was consistently lower scoring across all of the survey dimensions (when compared to the average of all score across HQ) – see Figure 5. In terms of the Burnout Index, only one HQ Organizational Code – Finance – showed a

significant positive correlation. Likewise, Contracts showed a significant positive correlation for the Job/Organizational Satisfaction Index. Just as Corporate Operations scored consistently unfavorable across all dimensions, both Finance and Contracts were among the highest scoring HQ organizational codes in terms of overall survey results.

      Age and Tenure. Whereas the preceding results related to HQ Organizational Codes were expected, the findings related to age and tenure were not as expected. They do, however, support the introductory discussion of Disengagement and Burnout in Chapter One. Career stage research (in vocational psychology and sociology) has posited disengagement as the final stage of a four-stage career model; however, subsequent research has helped refute a chronologically based model (Cron, 1993; Laff, 2007). To better understand the overall effect of age and tenure as categorical variables, one-way ANOVA was applied, including pairwise post hoc tests for comparisons within each possible pair of responses.

      There was an overall (borderline) significant effect of age on burnout where the p-value equaled .05 for the three responses –forty or over, under forty, and no age given – [$F(2, 867) =$ 2.94, $p = 0.05$]. Although the p-value only indicated borderline significance, post hoc comparisons using the Tukey HSD test were still examined and indicated that the mean score for 'Forty or over' ($M = 2.80$, $SD = .97$) was again borderline significantly different ($p = 0.05$) than the mean score for those who did not disclose their age ($M = 2.97$, $SD = .96$). However, the mean score for those "Under forty" ($M = 2.95$, $SD = 1.05$) did not significantly differ from respondents selecting "Forty or over" nor from those who did not disclose their age. It could be posited that there was no significant difference with this latter group because it might be made up of a good number of those actually under forty. Yet, if chronologically-based burnout frameworks held true, then one would expect significant differences between these two age
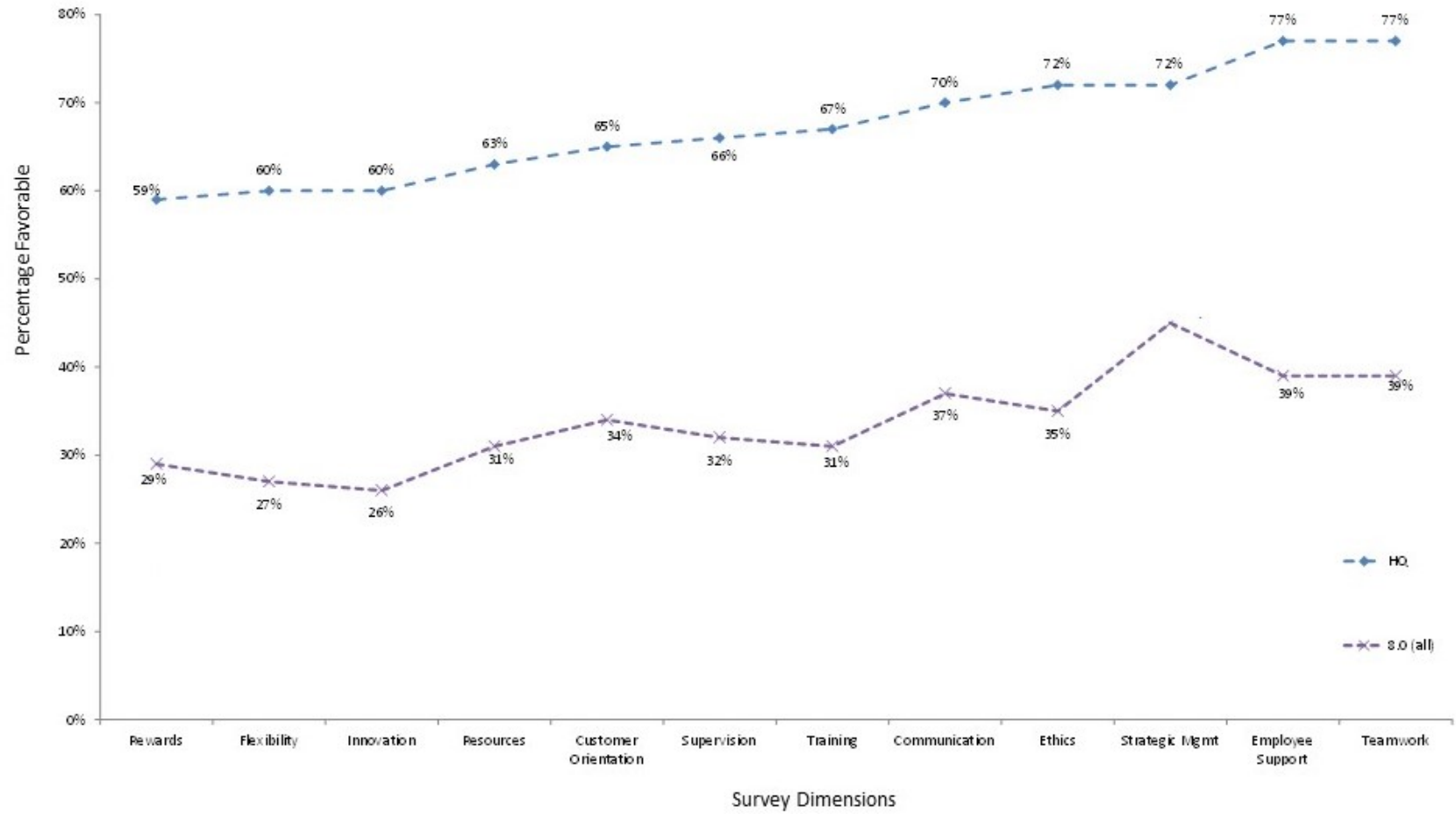
Figure 5. Corporate Operations Percentage Favorable versus HQ.

groups with those being older exhibiting more burnout. Instead, the opposite was found to be true, for of the three groups, the mean for those 'Forty or over' was the lowest in terms of burnout.

Similar results were found with regard to the ANOVA results for tenure and burnout. There was a significant effect of tenure on burnout where the p-value equaled .02 for the three responses (noting that the wording of OPM's response choices inadvertently leaves off "= 5 years" as an option) – six or more years, less than five years, and no tenure given – [F(2, 867) = 3.82, p = 0.02]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for 'six or more years' (M = 2.83, SD = .96) was significantly different than the mean score for those who did not disclose their tenure (M = 3.09, SD = 1.09). However, the mean score for those "less than five years" (M = 2.95, SD = .96) did not significantly differ from respondents selecting "six or more years" nor from those who did not disclose their tenure. Again, this could be because there was no significant difference with this latter group since it might be made up of a good number of those with less than five years of tenure. In refuting chronologically-based burnout frameworks, one would have expected significant differences between these two (tenure-specified) groups with those having more tenure exhibiting more burnout. Instead, the opposite was found to be true, for of the three groups, the mean for those with 'six or more years' of tenure was the lowest in terms of burnout.

Leave Intent. The findings in the area of Leave Intent did not appear to support the assertion by Schaufeli and Bakker (2004) with regard to their Job Demands-Resources Model that the relationship with turnover intention would be slightly stronger for job demands than for engagement. In the current study, those who did not intend on leaving served as the reference category and had means for each of the three indices as follows: Burnout = 2.69 (where 1.00

indicates the lowest level of burnout and 5.00 would be the highest); Engagement Conditions = 4.17 (with 1.00 being the lowest level of perceived engagement conditions and 5.00 being the highest); and Job/Organizational Satisfaction = 4.09 (where 1.00 represents the lowest amount of satisfaction and 5.00 is the highest).

In the case of all three indices, the p-value indicating a significant difference with the reference category means was p < .01 for those who expressed an intent to leave as a result of a job change/opportunity. When comparing the absolute values of the differences in means between these two response categories (see Tables 7, 8, and 9), it becomes evident that of the three indices, the difference was smallest in the case of the Burnout Index (for which the increase in the reference category mean was |.60| as compared to decreases of |.80| and |1.10| for the Engagement Conditions Index and the Job/Organizational Satisfaction Index respectively). In other words, those with an intent to leave for a job change/opportunity are perceiving fewer engagement conditions and feeling less job/organizational satisfaction to a higher (or more impactful) degree than they are feeling more burnt out versus people with no intent to leave.

Supervisory Responsibility. While there was no significant correlation between supervisory responsibility and the Burnout Index, there was for the other two indices – Supervisors/Managers/Executives positively correlated to Engagement Conditions (with an unstandardized coefficient of .22 above the reference category mean of 3.89 for non-supervisors) and Job/Organizational Satisfaction (with an unstandardized coefficient of .34 above the reference category mean of 3.69 for non-supervisors). The former (Engagement Conditions) might be explained by a possible bias of they themselves being the source of the conditions (in particular, as related to "Leaders Lead" and "Supervisors"). The latter (Job/Organizational Satisfaction) introduces a paradox best explained by Karasek (1979) as he references studies by

Quinn et al. (1971), which found that both executives and assembly-line workers could have

stressful jobs as well as differences in their job satisfaction (Karasek, 1979, p. 286). He quotes

Quinn et al. (1971) as follows:

> A major paradox of the study was that workers in higher status occupations were
>
> more satisfied than others with their jobs, were more mentally healthy, but at the
>
> same time experienced greater emotional tension concerning the events occurring
>
> on their jobs. Conversely, workers totally free of labor standards problems were
>
> not always among the most satisfied, since many of their jobs lacked the quality
>
> of self-developing challenge that appeared to be a major determinant of high job
>
> satisfaction. (p. 411)

Referring back to the Merit System Protection Board's (MSBP) studies (2012) described

in the Chapter 2 Literature Review, the MSBP identified six key drivers for Supervisors/

Managers/Executives to motivate federal employees and increase their engagement and

satisfaction:

1. Pride in one's work or workplace
2. Satisfaction with leadership
3. Opportunity to perform well at work
4. Satisfaction with recognition received
5. Prospect for future personal and professional growth
6. A positive work environment and some focus on teamwork

While there is mention of "some focus on teamwork," the MSBP does not strongly

elucidate or advocate for the participatory management and empowerment cited in Kim's (2002)

stance om work theory evolution. Without such increased decision latitude by workers (non-

supervisors), for example with regard to workload control and focus, the mounting "anger" per Risher (2018) will become more evident.

Moderation

The third research question centered around whether the interaction between Burnout and Engagement Conditions as predictors would result in a significantly moderated effect on Job/Organizational Satisfaction as an outcome variable. This was tested at both the index level for Burnout as well as for each of its individual components separately.

Index Level. At the index level, Burnout did not prove to have a significantly moderating impact with Engagement Conditions on Job/Organizational Satisfaction. The first two hypotheses were supported, for the Engagement Conditions Index (as well as the Burnout Index) did significantly correlate with Job/Organizational Satisfaction. In terms of the former (i.e., the Engagement Conditions Index), by itself demonstrated a strong positive correlation with the outcome variable in the test of Hypothesis 1. The Adjusted R Square value was .78 signifying that 78% of the variance seen in Job/Organizational Satisfaction could be attributed to Conditions Conducive to Employee Engagement. With Hypothesis 2 when the Burnout Index was added as a second predictor, it showed a negative correlation with Job/Organizational Satisfaction. The Adjusted R Square value increased to .79 with the standardized coefficients being .85 for Engagement Conditions and -.11 for Burnout at the index level.

It was Hypothesis 3 that proved to not hold true. Although the Adjusted R Square value remained .79 and the unstandardized coefficients remained the same as well, the interaction variable created by multiplying the z-scores of the two predictors together was not significantly correlated to Job/Organizational Satisfaction, for the resultant p-value was greater than .05.

Item Level. Moderation was then tested at the item level, with the four survey items that make up the Burnout Index each taking its turn in the creation of the interaction variable. As was the case at the index level for Burnout, Hypotheses 1 and 2 were affirmed (at fairly the same ratio of the two unstandardized coefficients); however, Hypothesis 3 was not supported in any of the cases.

Correlations between Indices. Although moderation had not been substantiated as part of Research Question Three, the positive correlations between the items making up the Engagement Conditions and Burnout Indices were examined for their individual relationships with Job/Organizational Satisfaction (both as an index and for each of its three component survey items).

Engagement Conditions and Job/Organizational Satisfaction. In terms of Engagement Conditions, Q64 (In HQ/PEO, leaders generate high levels of motivation and commitment in the workforce) was most consistently highly correlated with Job/Organizational Satisfaction as an index and with two of its three survey items (i.e., overall organizational satisfaction and whether one would recommend their organization as a good place to work). Q77 (HQ/PEO's leaders maintain high standards of honesty and integrity) and Q82 (My work gives me a feeling of personal accomplishment) were also both highly and positively correlated with the Job/Organizational Satisfaction Index and the former with Q93 (overall organizational satisfaction) and the latter with Q92 (overall job satisfaction). Two survey items – Q59 (Managers communicate the goals and priorities of the organization) and Q67 (My supervisor treats me with respect) were not significantly correlated with the Job/Organizational Satisfaction Index nor any of its component items.

Burnout and Job/Organizational Satisfaction. When the Burnout Index and its

component items were examined with regard to their relationships with the Job/Organizational

Satisfaction Index and its three survey items, two things were found to be true across the board.

First, Q83 (I have too many responsibilities at work to do them all well) was positively

correlated. Second, Q117 (I am mentally worn out) was not significantly correlated (in neither a

positive or negative direction). The positive correlation with regard to Q83 was pointed out

previously in Chapter Four as anomalous since it had been reverse-scored. Again, this would

indicate that respondents who believed they had too many responsibilities would also score more

favorably in terms of Job/Organizational Satisfaction as well as be more likely to recommend

their organization as a good place to work

High and Low Burnout Groups. As was discussed earlier in this chapter with regard to

HQ Organizational Code, two codes –Finance and Corporate Operations – had Burnout Index

means that significantly differed from that of the reference category. Finance had an

unstandardized coefficient of -.38 (with a corresponding mean of 2.52) and was well below the

reference category mean of 2.90. Corporate Operations, on the other hand, had an unstandardized

coefficient of .43 (with a corresponding mean of 3.33) thus placing it significantly above the

reference category mean. The same moderation analysis that was performed for Research

Question Three was repeated for Finance and Corporate Operations. As seen in Tables 19 and

20, while the former (Finance) did not indicate a significant moderating interaction, the latter

(Corporate Operations) did.

Table 19

Regression Results for a Moderating Interaction of Burnout with Engagement
Conditions on Job/Organizational Satisfaction for Finance

	Unstandardized Coefficients		
Model (and Adjusted R^2)	I (.70)	II (.69)	III (.69)
(Constant)	.09	.08	.08
Engagement Conditions Index	.87**	.86**	.86**
Burnout Index		-.02	-.01
Engagement Conditions Index x Burnout Index			-.02

Note. ** $p < .01$ (two-tailed).

Table 20

Regression Results for a Moderating Interaction of Burnout with Engagement
Conditions on Job/Organizational Satisfaction for Corporate Operations

	Unstandardized Coefficients		
Model (and Adjusted R^2)	I (.90)	II (.91)	III (.91)
(Constant)	-.12	-.08	-.07
Engagement Conditions Index	.87**	.86**	.87**
Burnout Index		.12*	-.21**
Engagement Conditions Index x Burnout Index			-.06*

Note. * $p < .05$ (two-tailed). ** $p < .01$ (two-tailed).

The following are two visualizations (Figures 6 and 7) to aid in breaking down and interpreting the interaction taking place. Whereas there was no moderating interaction for low levels of burnout (as depicted by the Corporate Operations Burnout Index mean minus one standard deviation) as seen in Figure 6, there was an interaction at higher levels of burnout (as depicted by the Corporate Operations Burnout Index mean plus one standard deviation) as seen in Figure 7. This indicates that for employees feeling less burned out, conditions conducive to employee engagement are not as critical for job/organizational satisfaction.
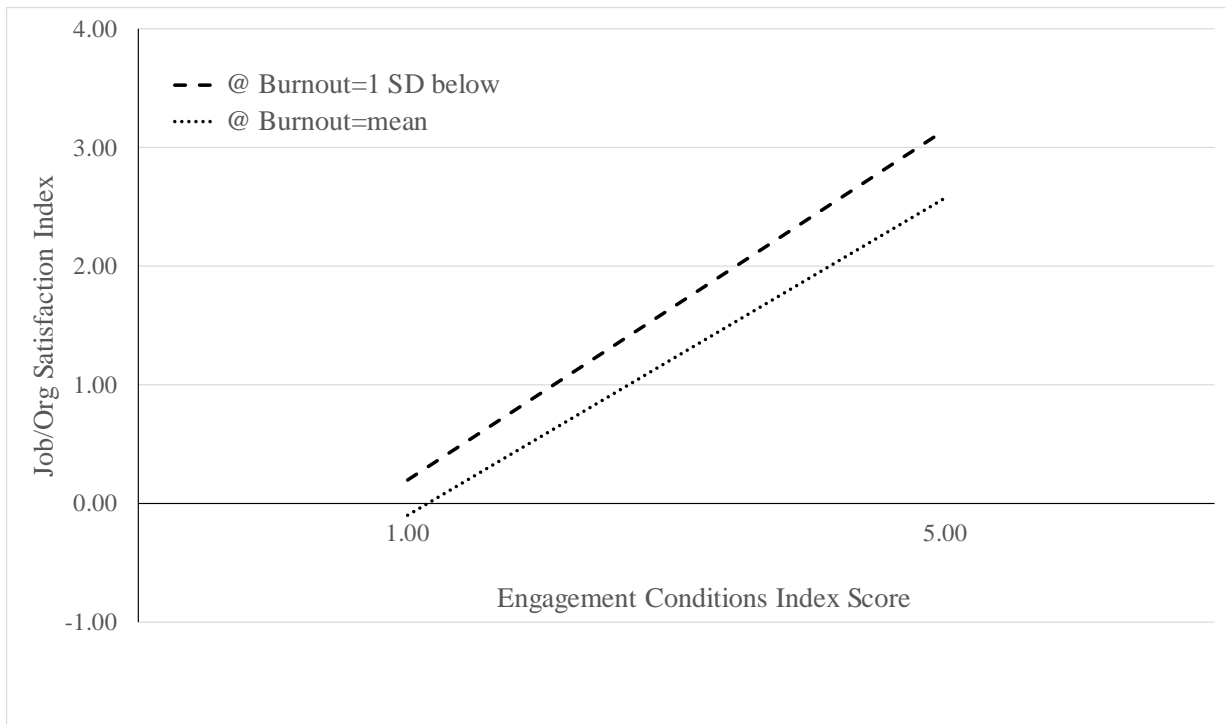
Figure 6. Moderating Interaction of Low Burnout with Engagement Conditions on Job/Organizational Satisfaction within Corporate Operations
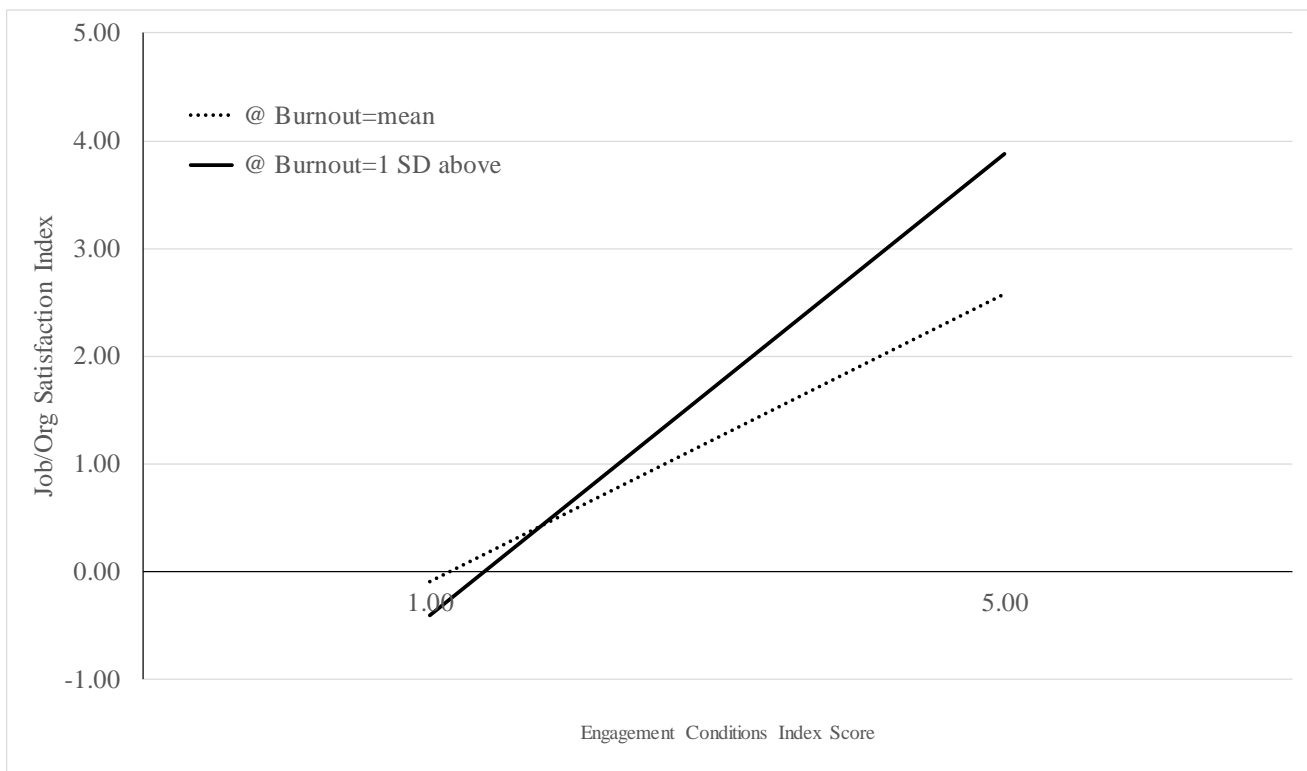

Figure 7. Moderating Interaction of High Burnout with Engagement Conditions on Job/Organizational Satisfaction within Corporate Operations.

Limitations and Delimitations

Leading burnout researchers have cited several limitations and areas in need of further research. The first among these areas can be applied universally to the studies cited in the review of literature. The studies discussed all predominantly relied on self-report measures, as did the survey instrument utilized for this examination. It may be possible to more objectively measure behavioral indicators of interest such as through company files with regard to actual personnel turnover, absenteeism due to sickness, and performance reviews (Schaufeli & Bakker, 2004; Schaufeli, Maslach, & Marek, 1993). Other areas included the development of alternative measures beyond self-report, identification of criterion levels to provide empirical support to burnout as a serious social problem, longitudinal studies for a better understanding of causal relationships and developmental frameworks, and empirical evidence with regard to the effectiveness of burnout interventions (Schaufeli, Maslach, & Marek, 1993). This would be especially pertinent since even as exhibited by the survey instrument employed for this examination, few specific questions related to potential burnout are asked.

Moreover, because this study was conducted within my own organization, there are other inherent limitations going in. These are best articulated by Glesne (2006) who states:

> Previous experiences with settings or peoples can set up expectations for certain types of interactions that will constrain effective data collection…When studying in your own backyard, you often already have a role…When you add on the researcher role, both you and those around you may experience confusion at times over which role you are or should be playing. (p. 31)

Glesne (2006) goes on to warn that "backyard research can be extremely valuable, but it needs to be entered with heightened consciousness of potential difficulties" (p. 33). For

example, "political consequences are often more challenging in backyard research in that you may have to negotiate with colleagues and superiors not only what data can be collected but also what gets reported" (Glesne, 2006, p. 32).

In addition to these potential limitations, by examining my own organization, I was also more prone to the potential pitfalls related to heightened subjectivity. While Peshkin (1988) points out that "subjectivity can be seen as virtuous, for it is the basis for researchers making a distinctive contribution," he also urges researchers to "actively seek out subjectivity" (p. 18). He "advocate[s] the enhanced awareness that should result from formal, systematic monitoring of self" (Peshkin, 1988, p. 20). Otherwise, one "run[s] the risk of presenting a study that has become blatantly autobiographical" (Peshkin, 1988, p. 20).

Lastly, as posited by Donmoyer (1990),"Research can only function as a heuristic; it can suggest possibilities but never dictate action" (p. 182). He goes on to state that case study research "may help in the forming of questions rather than in the finding of answers" (Donmoyer, 1990, p. 182). To that end, despite the limitations cited, I believe the significance of this study is that it opens the way for further research and understanding of this area.

Significance of the Study

Findings and Existing Research. First, the results of this study found support for a possible/acceptable index for burnout, which is consistent with prior research. Schaufeli and Bakker (2004), with their Job Demands-Resources (JD-R) Model, found that the performance of burned out employees might be improved through management's efforts to reduce excessive job demands (e.g., by providing employees with a clearer task focus or through adjustment of their workload). Factor analysis and reliability tests confirmed the viability of the job demands related survey items that clustered together.

Like the JD-R Model, the theory of job satisfaction put forth by Herzberg (1993) asserted that since separate factors need to be considered (depending on whether job satisfaction or job dissatisfaction is being examined), it follows that these two feelings are not opposites of each other. This latter concept was supported by the current study's finding that even if respondents had higher-than-the-mean or lower-than-the-mean scores on the resultant Burnout Index, they did not differ significantly in terms of their mean responses for six survey items. These six items appear representative of how Engagement was described by both Kahn's (1990) seminal definition (i.e., "harnessing of organizational members' selves to their work role…physically, cognitively, and emotionally" (p. 692)), as well as to the primary assertion of the Merit Systems Protection Board (MSPB) that while competitive pay, benefits, and a healthy work-life balance contribute to employee satisfaction, it is engagement that results in employees putting forth the extra effort required to improve organizational outcomes. This supports the proposition that Burnout and Engagement are not opposite ends of the same spectrum.

The findings for the second research question also supported prior research, specifically the refutation of what was previously believed to be a chronologically-based model for disengagement and for burnout (Cron, 1993; Laff, 2007). If chronologically-based frameworks held true, then one would expect significant differences between age groups as well as between years of tenure. The expectation would be that people in the older age group and/or with more tenure would exhibit more burnout. Instead, the opposite was found to be true, thus supporting Cron (1993) and Laff (2007). On the other hand, the findings in the area of leave intent did not appear to support the assertion by Schaufeli and Bakker (2004) that the relationship with turnover intention would be slightly stronger for job demands than for engagement. The current study found that those with an intent to leave for a job change/opportunity are perceiving fewer

engagement conditions and feeling less job/organizational satisfaction to a higher (or more impactful) degree than they are feeling more burnt out versus people with no intent to leave.

Lastly, while results indicated burnout does not have a significant interaction effect with engagement conditions on job/organizational satisfaction for the overall SPAWAR HQ/PEO workforce (as was hypothesized), the moderating interaction was detected for its overall lowest-scoring HQ organizational code. Based on the findings for that particular group, it was shown that for employees feeling less burned out, conditions conducive to employee engagement are not as critical for job/organizational satisfaction.

Implications and Future Research. For practice, results from this study indicate that there needs to be a better means to measure and monitor burnout as well as address it (e.g., possibly through increased employee empowerment and decision latitude with regard to work). Out of the 122 items comprising the survey instrument leveraged in the current study, only four appeared to be related to burnout. As mentioned in the preceding discussion of limitations and delimitations, in addition to self-report items, more objective data could be sourced. Now that the Navy has been using Enterprise Resource Planning systems to standardize and centrally capture data, the time is ripe to better harness its power. This will also demand the requisite statistical software to mine and analyze data. Beyond the technical aspects of practice, the demographic related findings of this study highlight the need to shift outdated paradigms regarding age and tenure, for burnout is not a chronologically-based condition and should be on the radar for employees regardless of their age or tenure. Moreover, since burnout was found to not be as strongly linked to turnover as a lack of engagement conditions or job/organizational dissatisfaction, it is likely burned out individuals will stay on and become increasingly disgruntled.

For policy, results suggest that a better understanding of burnout could aid the federal government in targeting resources (in support of conditions conducive to employee engagement) to where they would make the most difference. The current study found that for employees feeling less burned out, increased or intensified engagement conditions may not be as necessary. Along with a better understanding and measurement of burnout, the state of engagement must be better measured and monitored as well. OPM's misnomer of its now simply-called Employee Engagement Index needs to be rectified. It appears that as recently as this year (2019), OPM is taking steps to attempt to measure what it refers to as attitudinal and behavioral employee engagement using some of the survey items that also surfaced in this study as potential state of engagement questions.

As was discussed extensively in Chapter Two (Literature Review), the federal government has been perpetuating the misnomer of an Employee Engagement Index, which does not actually measure the state of engagement, but instead the conditions believed to be conducive to it. Federal agencies are also ranked annually as "Best Places to Work" based on their aggregated score on three survey items deemed to be representative of job/organizational satisfaction. While burnout was not initially found to be a moderator between these two federally applied parameters, it is possible that it could be when the outcome is the actual state of engagement (once reliably measured). This conclusion would align with both prior academic studies as well as with current commentary by practitioners..."Based on what we know about burnout and its causes, the organizational and human costs are no doubt more extensive in government than in the private sector. That's because private sector employers have begun to develop policies and practices intended to encourage employee engagement. They manage employees as assets, not as costs" (Risher, 2018).

Further research and understanding in these areas will be important to numerous parties. For instance, senior management, who deals with high-level decisions in an organization, would need to ensure that an effective culture and structure is in place that fully engages employees. First-line management, who deal directly with disengaged employees or employees that are traveling down the path of disengagement, would need to be able to identify and address impending problems through direct interaction. Finally, employees who feel they are disengaged or becoming disengaged with their work may want to find ways to become re-engaged or prevent disengagement.

REFERENCES

Bakker, Arnold B; Evangelia Demerouti; Willem Verbeke. (2004). Using the job demands-resources model to predict burnout and performance. *Human Resource Management,* 43(1), p. 83-104.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

Bennis, W. G. & Nanus, B. (1985). *Leaders: The strategies for taking charge*. New York: Harper & Row.

Cordes, Cynthia L.; Dougherty, Thomas W. (1993). A review and an integration of research on job burnout. *Academy of Management Review*, Vol. 18 Issue 4, p. 621-657.

Cordes, Cynthia L.; Dougherty, Thomas W.; Blum, Michael. (1997). Patterns of burnout among managers and professionals: a comparison of models. *Journal of Organizational Behavior* (1986-1998), 18(6), p. 685-701.

Couper, M. P. (2008). Designing effective web surveys. Cambridge, MA: Cambridge University Press.

Cron, William L, Jackofsky, Ellen F, Slocum, John W Jr. (1993). Job performance and attitudes of disengagement stage salespeople who are about to retire. *The Journal of Personal Selling & Sales Management*, 13(2), p. 1.

De Leeuw1, Edith, Joop J. Hox1, & Anja Boeve (2016). Handling do-not-know answers: Exploring new approaches in online and mixed-mode surveys. *Social Science Computer Review*, 34(1), p. 116-132,

Demerouti, E. (2007, September 25). The oldenburg burnout inventory: A good alternative to measure burnout (and engagement). Dept of Social & Organizational Psychology. The Netherlands: Utrecht University.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Implementation procedures. Internet, mail, and mixed mode surveys: the tailored design method*. (3rd ed). Hoboken, NJ: John Wiley.

Donmoyer, R. (1990). Generalizability and the single-case study. In E. Eisner, & A. Peshkin, *Qualitative Inquiry in Education: The Continuing Debate* (p. 175-200). New York: Teachers College Press.

Freudenberger, H. J. (1974). Staff Burn-Out. *Journal of Social Issues*, 30, p. 159–165.

Garson, G. David. (2015). Missing values analysis and data imputation. *Statistical Associates Blue Book Series*, p. 2-26.

Glesne, Corrine. (2006). Becoming qualitative researchers: an introduction. Boston: Pearson Education Inc.

Golembiewski, Robert T. (1989). A note on Leiter's study. Highlighting two models of burnout. *Group & Organization Studies*, 14(1), p. 5-13.

Golembiewski, Robert T.; Boudreau, Robert A.; Ben-Chu Sun, Huaping Luo. (1998). Estimates of burnout in public agencies: Worldwide, how many employees have which degrees of burnout, and with what consequences? *Public Administration Review*, 58(1), p. 59-65.

Herzberg, F. (2003). One more time: How do you motivate employees? *Harvard Business Review*, p. 18-31.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33, p. 692–724.

Karasek, Jr., Robert A. (1979). Job demands, job decision latitude, and mental strain: implications for job redesign. *Administrative Science Quarterly*, 24 (2), p. 285-308.

Kim, S. (2002). Participative management and job satisfaction: Lessons for management leadership. *Public Administration Review, 62*(2), 231-241.

Laff, M. (2007). Employee Disengagement Strikes Early. *T+D*, April 2007, p. 20.

Lane, K., & McGurk, M. (2009, August). McKinsey Quarterly: The Online Journal of McKinsey & Company. Retrieved May 7, 2011, from McKinsey Quarterly: http://mckinseyquarterly.com

Leiter, M.P.; Maslach, C. (1988). The impact of interpersonal environment on burnout and organizational commitment. *Journal of Organizational Behavior*, Vol. 9, p. 297-308.

Lipsky, A. (1990). Participatory management schemes, the law, and workers' rights: A proposed framework of analysis. *The American University Law Review, 39*, 667-720.

Lipsky, A. (1990). Participatory management schemes, the law, and workers' rights: A proposed framework of analysis. *The American University Law Review, 39*, 667-720.

Maslach, C., Jackson, S., & Leiter, M. (1997). Maslach burnout inventory. In C. Zalaquett, & R. J. Wood, *Evaluating Stress: A Book of Resources* (p. 193-217). London: The Scarecrow Press, Inc.

Mathison, S. (1988). Why triangulate? *Educational Researcher*, p. 13-17.

Mayo, E. (1933). *The human problems of an industrial civilization*. New York: Macmillan.

McGregor, D. (1960). *The human side of enterprise*. New York: McGraw-Hill.

Meyer, C. K. & Brown, C. (1989). *Practicing public management: A casebook*. New York: St. Martin's Press.

Meyers, L., Gamst, G. & Guarino, A. (2006). *Applied multivariate research: design and interpretation*. Thousand Oaks: Sage.

Morgan, G. (2006). *Images of organization*. Thousand Oaks: Sage Publications.

Peshkin, A. (1988). In search of subjectivity – one's own. *Educational Researcher*, p. 17-21.

Pfeffer, J. & Salancik, G. R. (1978). External control of organizations: A resource dependence perspective. In J. Shafritz, S. Ott, & Y. S. Jang (Eds.), *Classics of organization theory* (pp. 521-532). Belmont: Wadsworth

Pink, Daniel H. (2009). *Drive: The surprising truth about what motivates us*. New York: Riverhead Books.

Quinn, R. P., S. W. Seashore, R. Kahn, T. Magione, D. Campbell, G. Stines, and M. McCullough. (1971). *Survey of working conditions, final report on univariate and bivariate tables*. Washington: U.S. Department of Labor, Employment Standards Administration. (U.S.G.P.O. Document No. 2916-0001).

Risher, Howard. (2018). *Is the federal workforce reaching its breaking point?* Retrieved from https://www.govexec.com/excellence/management-matters/2018/12/federal-workforce-reaching-its-breaking-point/153616/

Sagor, Mark J. (2011). *Reduce employee burnout, increase employee engagement*. Retrieved from http://www.compeap.com

Saks, Alan M. (2006). Antecedents and Conséquences of Employee Engagement. *Journal of Managerial Psychology*, 21(7), p. 600.

Schaufeli, Wilmar B.; Bakker, Arnold B. (2004). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behavior*, 25, p. 293–315.

Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2009). Burnout: 35 years of research and practice. *Career Development International*, 14(3), p. 204-220.

Schaufeli, W. B., Maslach, C., & Marek, T. (1993). The future of burnout. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research*. Washington, DC: Taylor & Francis.

Schaufeli, W., Salanova, M., Gonzalez-Roma, V., & Bakker, A. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, p. 71-92.

Seijts, Gerard H & Dan Crim. (2006). What engages employees the most or, The Ten C's of employee engagement. *Ivey Business Journal Online*, p. 1-5.

Soliant Health. (2010). *7 Tips to improve employee engagement and reduce burnout*. Retrieved from http://www.soliant.com

Strang, D. (1997). Proceedings from American Sociological Association '97: *Cheap Talk: Managerial Discourse on Quality Circles as an Organizational Innovation*. Toronto.

Towers Perrin (2008). 2007-2008 Towers Perrin Global Workforce Study: Global Report. Retrieved May 7, 2011, from Towers Perrin: www.towersperrin.com

Trahant, Bill (2007). Debunking Five Myths Concerning Employee Engagement. *Public Manager*, 36(1), p. 53-59.

United States Office of Personnel Management Planning and Policy Analysis. (2012). 2012 *Federal employee viewpoint survey results: employees influencing change*. (USOPM Publication No. ?). Washington, DC: U.S. Government Printing Office.

Van Buuren, S. (2012). *Flexible imputation of missing data*. Boca Raton: Chapman & Hall/CRC Press.

APPENDIX

Survey Instrument

<u>Office of Personnel Management Core Set of Questions</u>

1. The people I work with cooperate to get the job done.

2. The people I work with treat each other with respect.

3. There is open communication among employees in my work unit.

4. It is easy to stay in touch with my coworkers (e.g., given work schedules; with

communications/IT tools).

5. Managers support collaboration across work units to accomplish work objectives.

6. Managers promote communication among different work units (for example, about

projects, goals, needed resources).

7. HQ/PEO's products and services are designed to meet customer needs and

expectations.

8. HQ/PEO sets goals for meeting customer expectations.

9. HQ/PEO uses customer feedback to improve the quality of its products and services.

10. I have the tools and resources needed to provide good customer service.

11. I have received training and guidance in providing high-quality customer service.

12. Employees are recognized for providing high quality products and services.

13. Managers encourage the development of new products and services.

14. HQ/PEO anticipates customer needs.

15. I receive the training I need to perform my job.

16. My supervisor provides me with opportunities to demonstrate my leadership skills.

17. I am given a real opportunity to improve my skills in HQ/PEO.

18. My training needs are assessed.

19. My supervisor supports employee development.

20. Training and career development opportunities are allocated fairly.

21. I receive the everyday guidance I need to perform my job.

22. There is at least one person at work whom I consider my coach or mentor.

23. Mistakes are treated as an opportunity to learn, rather than being ignored or punished.

24. I have sufficient resources (for example, people, materials, budget) to get my job

    done.

25. My supervisor removes barriers to getting my job done.

26. The people in my work unit have the job-relevant knowledge and skills necessary to

    accomplish organizational goals.

27. My work unit is able to recruit people with the right skills.

28. My work unit's best employees tend to stay here.

29. I have enough information to do my job well.

30. I am kept informed on issues affecting my job.

31. My workload is reasonable.

32. The distribution of work among employees is fair.

33. Physical conditions (for example, noise, temperature, lighting, cleanliness) allow

    employees to perform their jobs well.

34. HQ/PEO has a clear chain of command.

35. I know where my work unit fits into the HQ/PEO organizational hierarchy.

36. HQ/PEO's work processes are efficient.

37. I can get my work done without going through many unnecessary layers of reviews and approvals.

38. I feel encouraged to come up with new and better ways of doing things.

39. Creativity and innovation are rewarded.

40. We effectively manage risks when innovating.

41. I am satisfied with my involvement in decisions that affect my work.

42. I have a feeling of personal empowerment with respect to work processes.

43. Managers follow up on employee suggestions for improvements in products, services, and work processes.

44. Sufficient effort is made to get the opinions and thinking of people who work here.

45. High performing employees get rewarded.

46. Promotions in my work unit are based on merit.

47. I am held accountable for achieving results.

48. In my work unit, differences in performance are recognized in a meaningful way.

49. Cash bonuses/awards are large enough to be meaningful.

50. HQ/PEO makes good use of non-monetary rewards.

51. My supervisor is fair in recognizing good performance.

52. My supervisor clearly communicates my job responsibilities.

53. In my most recent performance appraisal, I understood what I had to do to be rated at different performance levels.

54. My performance appraisal is a fair reflection of my performance.

55. My supervisor provides me with constructive suggestions to improve my job performance.

56. In my work unit, steps are taken to deal with a poor performer who cannot or will not improve.

57. I understand HQ/PEO's mission and vision.

58. I agree with the direction HQ/PEO is going.

59. Managers communicate the goals and priorities of HQ/PEO.

60. I know how my work contributes to HQ/PEO's mission and goals.

61. I am provided with information about how HQ/PEO is performing.

62. Managers review and evaluate the organization's progress toward meeting its goals and objectives.

63. HQ/PEO sets goals for its performance.

64. In HQ/PEO, leaders generate high levels of motivation and commitment in the workforce.

65. Leaders inspire employees to be service oriented.

66. I have trust and confidence in my supervisor.

67. My supervisor treats me with respect.

68. Employees are protected from health and safety hazards on the job.

69. HQ/PEO has prepared employees for potential security threats.

70. My supervisor supports my need to balance work and other life issues.

71. Employees are given the opportunity to work at home or on flexible work schedules, when the job permits (for example, Flextime, Alternate Work Schedule, telecommuting, part-time).

72. Employees who take advantage of family/personal life policies and benefits do not hurt their career opportunities.

73. Employees are treated fairly in HQ/PEO.

74. To what extent is prejudice, discrimination and/or harassment a problem in HQ/PEO?

75. Policies and programs promote diversity in the workplace (for example, recruiting

    minorities and women, training in awareness of diversity issues, mentoring).

76. Managers/supervisors work well with employees of different backgrounds.

77. HQ/PEO's leaders maintain high standards of honesty and integrity.

78. I can disclose a suspected violation of any law, rule or regulation without fear of

    reprisal.

79. I find my work challenging.

80. I like the kind of work I do.

81. My talents are used well in the workplace.

82. My work gives me a feeling of personal accomplishment.

83. I have too many responsibilities at work to do them all well.

84. I feel like I have too many bosses.

85. Overall, how good a job do you feel is being done by your immediate supervisor?

86. How do you rate your total benefits program?

87. How satisfied are you with the information you receive from management on what's

    going on in HQ/PEO?

88. How satisfied are you with the recognition you receive for doing a good job?

89. How satisfied are you with your opportunity to get a better job in HQ/PEO?

90. How satisfied are you with the training you received for your present job?

91. Considering everything, how satisfied are you with your pay?

92. Considering everything, how satisfied are you with your job?

93. Considering everything, how would you rate your overall satisfaction in HQ/PEO at
    the present time?

94. I care about the future of HQ/PEO.

95. My values are very similar to HQ/PEO's values.

96. A major reason I work here is for the benefits (e.g., job security, health, leave,
    workplace flexibilities).

97. My job is a large part of who I am.

98. I am stressed out because of work.

99. I care about how well I perform my job.

100. I have a lot of great ideas for improving HQ/PEO.

101. I believe the results of this survey will be used to make HQ/PEO a better place to
    work.

102. I give extra effort to help HQ/PEO succeed.

103. I give extra effort to help out my customers.

104. I am constantly looking for ways to do my job better.

105. Are you considering leaving HQ/PEO?

106. How would you rate the overall quality of work done by your work unit?

107. How satisfied do you think HQ/PEO's external customers are with the products and
    services it provides?

108. HQ/PEO is successful at accomplishing its mission.

Locally Developed Questions for/by SPAWAR HQ & PEOs

109. I recommend my organization as a good place to work.

110. I trust that my supervisor will represent the best interests of SPAWAR/PEOs overall.

111. I trust that leadership above my supervisor will represent the best interests of SPAWAR/PEOs overall.

112. Supervisors in my organization work well with each other.

113. Leadership above my supervisor work well with each other.

114. I believe the opportunity for physical fitness/wellness activity during the workday promotes employee productivity.

115. I believe the opportunity for physical fitness/wellness activity during the workday contributes to employee satisfaction.

116. My supervisor supports opportunities to work at home or on flexible work schedules when the job permits (for example, Flextime, Alternate Work Schedule, telecommuting, part-time).

117. I feel mentally worn out.

118. Members of my organization work together as a team.

119. Communication flows freely from senior leadership to all levels of the organization.

120. Communication from my direct leadership is clear.

121. I have seen demonstrable improvement regarding facilities issues over the past twelve months.

122. The feedback I receive from my supervisor on my performance enables me to make meaningful changes to how I perform my job.