THREE ESSAYS ON PUBLIC JOB SECURITY

Hyunkang Hur

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Doctoral Committee

__________________________
James L. Perry, Ph.D.

__________________________
Michael McGuire, Ph.D.

__________________________
Sergio Fernandez, Ph.D.

__________________________
Haeil Jung, Ph.D.

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I would like to express my deepest gratitude to my advisor, Dr. James L. Perry, for his excellent guidance, caring, patience, and most importantly, his friendship during my graduate studies at Indiana University Bloomington. For the coursework years to the final days of this study, Dr. James Perry influenced my life and work. There is no a single line in this study that Jim did not have me thing again. I have no other way to express my gratitude than just saying “Thank-you, Professor!” I would also like to thank my dissertation committee of Dr. Michael McGuire, Dr. Sergio Fernandez, and Dr. Haeil Jung for guiding my research for the past several years and helping me to move from an ideal to a completed study. Most of all, I am thankful for their encouragement when I was down and out.

I am grateful for the opportunity to study at the Indiana University School of Public and Environmental Affairs, the most prestigious school in the field of public affairs. This study would not have been possible without the support of the school and advices of the excellent faculty members.

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Job security plays a central role in the identity of public institutions and public debates about public performance and reform, however, we have relatively little theoretical or empirical research about job security. These three essays are empirical studies on different facets of job security and insecurity in the public sector. Empirical results contribute to theory building in the field of public management that seeks to advance usable knowledge about job security, and identify content distinctive to public institutions.

This dissertation is employing a meta-analytical method to test for an inverted U-shaped relationship between job security and employee work attitudes. This study shows that medium sized association between job security and work behavior variables (job satisfaction and organizational commitment) were found, ($\rho$) with .327 for job satisfaction and .253 for organizational commitment.

This dissertation is also evaluating the impact of job security rule changes on U.S. federal government employee work attitudes and behavior, and I am using difference-in-differences methods to assess the impact of 2004, 2005, 2007 year Department of Homeland Security’s job security rule changes on employee affective organizational commitment. While some previous work has reported near-time impacts, few studies have examined the impact of different job security rule changes on public employee work attitudes or behavior, comparing the treated units before and after treatment. Result shows that the overall effect of introduction of a new job security rule in DHS is a decrease of approximately 16 percentage points in organizational commitment, which is a substantial negative effect on the affective organizational commitment in the DHS.
This dissertation is also examining how public employees with limited job protections or security have reacted to the variety of new managerial structures associated with the federal and state civil service reform using multinomial logit model. This study demonstrated that federal and state government employee work behavior and attitudes with limited job protections or security were influenced by the set of organizational practices to increase perceived job security (e.g., giving empowerment, offering potential growth opportunity).
# TABLE OF CONTENTS

**ACKNOWLEDGEMENTS** ........................................................................................................ iii

**ABSTRACT** .............................................................................................................................. iv

**TABLE OF CONTENTS** ............................................................................................................. vi

**LIST OF TABLES** ....................................................................................................................... ix

**LIST OF FIGURES** ..................................................................................................................... xii

**CHAPTER 1: INTRODUCTION** .................................................................................................1

**CHAPTER 2: BACKGROUND AND LITERATURE REVIEW** ..................................................3

A Selective History of Job Security Research .............................................................................3

Definitional Issues: Objective vs. Subjective Job Security .........................................................3

What is known from Organizational Behavior & Human Resource Management Research? ....5

  Tendency to emphasize subjective job insecurity .................................................................6

  Including “powerlessness to counteract the threat” into the definition of job insecurity yields mixed and conflicting findings .........................................................................................................................7

  Recent OB &HRM research has not been conducive to applying findings across different institutional settings .........................................................................................................................7

What do we know from Research on At-Will Employment .....................................................8

  Research on how job security rules influence the motivation of civil servants yields ambiguous results ..........................................................................................................................................................................9

  Need for security is an important motivator in both the private and public sectors ..........9

Summary ....................................................................................................................................10

Synthesis of a Model .................................................................................................................11

**CHAPTER 3 (ESSAY 1): THE RELATIONSHIP BETWEEN JOB SECURITY AND WORK ATTITUDES: A META-ANALYSIS EXAMINING COMPETING THEORETICAL MODELS** .................................................................13

Hypothesized Relationship between Job Security and Work Attitudes ..................................14

Moderators of the Job Security and Work Attitudes Relationship ..........................................16

  Type of Organization .............................................................................................................17

  Country of Origin .................................................................................................................18

  Age of Employees ..................................................................................................................19

  Tenure of Employee .............................................................................................................20
LIST OF TABLES

CHAPTER 3 (ESSAY 1): THE RELATIONSHIP BETWEEN JOB SECURITY AND WORK ATTITUDES: A META-ANALYSIS EXAMINING COMPETING THEORETICAL MODELS ..........................................................13

Table 1. Sample characteristics, organizational type, average age and tenure, percentage of female employee, sample size, reliability of job security, and Pearson correlations of job security with outcomes (job satisfaction and organizational commitment), and reliabilities of the outcomes ..................................................................................................................................................30

Table 2. Meta-analytic results of relationships between job security and job satisfaction and organizational commitment ..........................................................31

Table 3 Meta-analytic results of moderator analyses by Job security intensity (Relationship between Job Security and Job Satisfaction) ..........................................................33

Table 4 Meta-analytic results of moderator analyses by Job security intensity (Relationship between Job Security and Organizational commitment) ..........................................................34

Table 5. Meta-Analytic Results of Subgroup Moderator Analyses for the relationship between job security and job satisfaction ........................................................................................................................................37

Table 6 Meta-Analytic Results of Subgroup Moderator Analyses for the relationship between job security and organizational Commitment ..................................................................................................................40

Table 7 Meta-Analytic Results of Job Security Questionnaire Type Moderate Analysis between Job Security and Job Satisfaction & Organizational Commitment .............................................41

CHAPTER 4 (ESSAY 2): JOB SECURITY RULE CHANGES AND EMPLOYEE ORGANIZATIONAL COMMITMENT: A NATURAL EXPERIMENT .........................................................50


Table 2. Cronbach alpha & Addictive Index Mean for 3-itmes Affective Organizational Commitment Dependent Variable by Survey Year ........................................................................................................................................69


Table 4. Background Variables: Balancing Test for Pre-(2002) and Post-(2004) ............................................................................................................................................74

Table 5. Background Variables: Balancing Test for Pre-(2004) and Post-(2006) ............................................................................................................................................76

Table 6. Background Variables: Balancing Test for Pre-(2004) and Post-(2008) ............................................................................................................................................78


CHAPTER 5 (ESSAY 3): EXPLAINING EMPLOYEE WORK ATTITUDES AND BEHAVIOR IN FEDERAL AND STATE GOVERNMENT: EXAMINING ROLES OF FAIRNESS, EMPOWERMENT, AND POTENTIAL GROWTH OPPORTUNITY IN AT-WILL EMPLOYMENT PRACTICES .....................................................................................97

Table 1. Descriptive Statistics for Independent and Control Variables ..................................110

Table 2. Model Estimates and Test of fit, N=8206 (Ordinary Least Squares=OLS; Ordered Logit Model=ORM; Ordered Probit Model=OPM; Multinomial Logit Model=MNLM) ......................................................114

Table 3. Logit coefficients for Multinomial Logit Model, Dependent Variable= Job Satisfaction; Work Group Performance; Organizational Commitment ........................................................................................................115

Table 4. Discrete Change in the Probability of Job Satisfaction, Work Group Performance, and Organizational Commitment for Multinomial Logit Model (all other Variables Held at Mean Values) ...........................................................................................................................................118

Table 5. Logit coefficients for Ordered Logit Model (ORM) with Interaction Effect ...............133

Table 6. The Probability of Federal Employee Work Behavior and Attitudes by Dependency level .....................................................................................................................................................135

Table 7. Descriptive Statistics for Independent and Control Variables ..................................139

Table 8. Model Estimates and Test of fit, N=841 (Ordinary Least Squares: OLS; Ordered Logit Model: OLM; Ordered Probit Model: PM; Multinomial Logit Model: MNLM) ..........................143

Table 9. Logit coefficients for Multinomial Logit Model, Dependent Variable= Job Satisfaction; Organizational Commitment ........................................................................................................................................................................144

Table 10. Discrete Change in the Probability of Job Satisfaction, and Organizational Commitment for Multinomial Logit Model (all other Variables Held at Mean Values) ............147
Table 11. Logit coefficients for Ordered Logit Model (ORM) with Interaction Effect ..............156
Table 12. The Probability of dependency level in discrete change with interactions................157
LIST OF FIGURES

CHAPTER 2: BACKGROUND AND LITERATURE REVIEW .........................................................3

Figure 1. Summary of issues and relationships considered in empirical studies on job security..11

CHAPTER 5 (ESSAY 3): EXPLAINING EMPLOYEE WORK ATTITUDES AND
BEHAVIOR IN FEDERAL AND STATE GOVERNMENT: EXAMINING ROLES OF
FAIRNESS, EMPOWERMENT, AND POTENTIAL GROWTH OPPORTUNITY IN AT-WILL EMPLOYMENT PRACTICES ..........................................................................................................................97


Figure 1. Predicted Levels of Job Satisfaction, Encouragement to Subjective Job Security
Practice 1 (Providing Distributive Justice Organizational Environment) .................................119

Figure 2. Predicted Levels of Job Satisfaction, Encouragement to Subjective Job Security
Practice 2 (Offering Procedural Justice Organizational Environment) .........................................119

Figure 3. Predicted Levels of Job Satisfaction, Encouragement to Subjective Job Security
Practice 3 (Providing Empowerment) ..........................................................................................119

Figure 4. Predicted Levels of Job Satisfaction, Encouragement to Subjective Job Security
Practice 4 (Offering Potential Growth Opportunity) .................................................................119

Figure 5. Predicted Levels of Work Group Performance, Encouragement to Subjective Job
Security Practice 1 (Providing Distributive Justice Organizational Environment) .........................124

Figure 6. Predicted Levels of Work Group Performance, Encouragement to Subjective Job
Security Practice 2 (Offering Procedural Justice Organizational Environment) ............................124

Figure 7. Predicted Levels of Work Group Performance, Encouragement to Subjective Job
Security Practice 3 (Providing Empowerment) .............................................................................124

Figure 8. Predicted Levels of Work Group Performance, Encouragement to Subjective Job
Security Practice 4 (Offering Potential Growth Opportunity) ......................................................124

Figure 9. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job
Security Practice 1 (Providing Distributive Justice Environment) .............................................129

Figure 10. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job
Security Practice 2 (Offering Procedural Justice Organizational Environment) ............................129

Figure 11. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job
Security Practice 3 (Providing Empowerment) .............................................................................129
Figure 12. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job Security Practice 4 (Offering Potential Growth Opportunity) ..........................................................129

Part II. U.S. State of Georgia Analysis .................................................................................................137

Figure 1. Predicted Levels of Job Satisfaction, Encouragement to Subjective Job Security Practice 1 (Providing Distributive Justice Organizational Environment) .........................148

Figure 2. Predicted Levels of Job Satisfaction, Encouragement to Subjective Job Security Practice 2 (Offering Procedural Justice Organizational Environment) ..............................148

Figure 3. Predicted Levels of Job Satisfaction, Encouragement to Subjective Job Security Practice 3 (Providing Potential Growth Opportunity) .................................................................148

Figure 4. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job Security Practice 1 (Providing Distributive Justice Organizational Environment) ...............151

Figure 5. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job Security Practice 2 (Offering Procedural Justice Organizational Environment) .....................151

Figure 6. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job Security Practice 3 (Providing Potential Growth Opportunity) .....................................................151
Chapter 1: Introduction

Job security is a concept of enduring importance in public administration and public management. In his *History of the U.S. Civil Service*, Paul Van Riper (1978) identified "security of tenure" as one of three defining attributes of the new federal civil service at its inception in 1883. The security public institutions such as governments and educational enterprises grant to employees has been a source of continuing controversy, as prominent in education reform of 2010 as civil service reform of the 1970s (Campbell, 1978; Savas and Ginsburg, 1973).

Although job security plays a central role in the identity of public institutions and public debates about public performance and reform, we have relatively little theoretical or empirical research about job security (Perry, 2010). The dearth of research about job security comes despite the concept’s importance and calls to remedy the deficit in scholarship by Greenhalgh & Rosenbaltt (1984), Ashford, Lee and Bobko (1989) and others during an era of public and private cutbacks in the 1980s.

The three essays in this dissertation are empirical studies on different facets of job security and insecurity in the public sector. Empirical results contribute to theory building in the field of public management that seeks to advance usable knowledge about job security, and identify content distinctive to public institutions.

The dissertation first seeks to develop research questions for job security by synthesizing streams of research with origins in labor and employment relations, organizational behavior, and public human resource management. After reviewing and synthesizing the empirical literature on job security several gaps are evident. First, research on relationships between job security and employee work attitudes and behavior have produced an especially large number of mixed and
conflicting findings. Second, how institutional features of objective job security influence subjective job security, employee behavior, work attitudes and behaviors, and their performance need to be examined in more detail. Third, in relation to the amount of research that has been conducted on subjective job insecurity, relatively studies on which and how organizational practices affect work attitudes and behavior with attention given to the institutional rules associated with (objective) job security have underdeveloped. The overall aim of this dissertation is to address and fill the gap of previous research on public job security.

The dissertation is organized as follows. Chapter 2 provides the research background and literature review of public and private sector job security. Based upon the review of the literature, I develop an integrative model of job security. The research synthesis identifies clear gaps in our understanding of job security, particularly in the context of public institutions. The discussion then turns to the three essays (Chapter 3, 4, and 5) to address and fill gaps in previous research on job security. Each essay includes a discussion of data and methods used in the analysis and then summarize the key results. Finally, Chapter 6 discusses the results and suggestions for future research.
Chapter 2: Background and Literature Review

A Selective History of Job Security Research

Although casual discourse usually takes the meaning of job security for granted, the scholarly literature reflects a variety of meanings. In the three decades since Greenhalgh and Rosenblatt’s (1984) seminal study to clarify job insecurity as a concept, for example, scholars have given significant attention to it rather than its inverse, job security. In contrast, the public administration literature focuses almost exclusively on job security to the exclusion of job insecurity. I believe it is important to acknowledge and incorporate the variety of meanings into a research program.

This section offers a review of job security concepts and related empirical research. My goal in this section is to clarify the meaning of the job security concept and to specify its content domain. I also review research subsequent to Greenhalgh and Rosenblatt’s (1984) study. The review is framed around the job security concept. Based upon the review of the literature, I develop an integrative model of job security.

Definitional Issues: Objective vs. Subjective Job Security

Maslow and Herzberg regarded job security as a need or hygiene factor. Among the five need levels, Maslow refers to job security as a safety need and writes: “We can perceive the expressions of safety needs only in such phenomena as, for instance, the common preference for a job with tenure and protection…. and for insurance of various kinds” (Maslow, 1954, p 18).
Herzberg, Mausner, and Snyderman (1959) refer to job security as a hygiene factor, “when the factors deteriorate to a level below that which the employee considers acceptable, then job dissatisfaction ensues” (Herzberg et al., 1959, p. 113). According to the Herzberg et al. (1959), they clearly recognized that “both kinds of factors (e.g., motivators and hygiene factors) meet the needs of the employees; but it is primarily the “motivators” that serve to bring about the kind of job satisfaction,…..” (Herzberg et al., 1959, p. 114). Romzek defined job security as a “legal employment contract between employee and agency that leads to assurances for continued employment” (Romzek, 1985, p. 283).

The limited review of different meanings above shows that research on job security treated the construct as both an objective feature of the situation and as a subjective individual need. However, in the three decades since Greenhalgh and Rosenblatt’s (1984) effort to clarify job insecurity as a concept, scholars have given the lion’s share of attention to the subjective construct of job insecurity.

Greenhalgh and Rosenblatt’s (1984) effort to clarify the theoretical understanding for job insecurity became a starting point for scholars to systematically understand and study job insecurity. In their paper, Greenhalgh and Rosenblatt developed a theoretical model to understand the nature, causes, and consequences of job insecurity. They defined job insecurity as “powerlessness to maintain desired continuity in a threatened job situation”. The general assumption underlying this definition is that job insecurity can be understood by an individual’s perceptions of the immediate work environment. Regarding the theoretical model for job insecurity, Greenhalgh and Rosenblatt argued that an individual’s subjective threat, as represented by job insecurity, is derived from objective threat as filtered through an individual’s perceptual processes. They argue that job insecurity, in turn, is projected to affect a variety of
individual organizational behaviors such as productivity, turnover, and resistance to change. They also regard individual differences, such as need for security, as a moderate variable in this model. Thus, Greenhalgh and Rosenblatt’s research can be interpreted that (subjective) perceived job insecurity may differ across individuals even if they are exposed to the same situation, but they also link an individual’s perceptions to the objective situation and perceived insecurity is projected to affect a variety of employee work attitudes and behaviors.

I now turn to a review of that research. The review is framed around job security concept which is the function of subjective and objective construct discussed in this part. Through this process, I will identify what gaps exist in our understanding and knowledge related to job security.

What is Known from Organizational Behavior & Human Resource Management Research?

Although scholars emphasize job security’s role in the identity of public institutions and public debates about public performance and reform (Van Riper, 1978; Savas and Ginsburg, 1973) surprisingly little empirical research has been conducted on job security in the last three decades. Despite the dearth of research about job security, three research streams are evident.

The first stream of job security research involves how objective and subjective job security are related to one another and to employee attitudes and performance (Greenhalgh and Rosenblatt, 1984). This research topic has played a central role in research in organizational behavior and human resource management subsequent to Greenhalgh and Rosenblatt (1984). In subsequent empirical study, measurement of objective job security has typically been based on
contract type (i.e., permanent contract vs. short-term contract). Operational measures of subjective job security (usually called job insecurity) consist of multidimensional assessments of the importance of threats to one’s job features and powerlessness to prevent a loss (Greenhalgh and Rosenblatt 1984).

**Tendency to emphasize subjective job insecurity.** The review of research shows that research bifurcates the study of job security, with recent research focused on job insecurity as a subjective construct, in contrast to early research that treated the construct as both an objective feature of the situation and as a subjective individual need. Some studies investigate relationship between various antecedents (i.e., perceived lack of predictability and control, organizational changes, role ambiguity, and external locus of control) and job insecurity (Ashford, Lee, and Bobko, 1989; Roskies and Louis-Guerin, 1990). Others focus on consequences of job insecurity. They investigate the relationship between job insecurity, burnout, organizational commitment, psychological well-being (i.e., psychological distress and life satisfaction), and health related behaviors of workers (Bosman, Buitendach, and Laba. 2005; Orpen 1993; De Witte 2005; Ferrie, Shipley, Stansfeld, and Marmot, 2002; Silla 2009). Most research after Greenhalgh and Rosenblatt (1984) heavily emphasized (subjective) job insecurity with much less attention given to the institutional rules associated with (objective) job security. Although some studies explore how objective job security influences perceived job insecurity, job satisfaction, irritation/strain, psychosomatic complaints, and organizational commitment (Bussing 1999; De Whitte and Naswall 2003), measures of objective security in these studies are relatively blunt, based on whether workers operate within an objectively insecure employment status or objectively secure employment status (i.e., temporary or permanent contract).
Including "powerlessness to counteract the threat" into the definition of job insecurity yields mixed and conflicting findings. In general, the empirical evidence about how objective and subjective job security relate to one another and, in turn, to employee performance is ambiguous. The main contention of job security research in this stream assumes that workers in permanent jobs will display weaker feelings of job insecurity than workers on temporary contracts and it leads to increased employee job performance by giving them a surer expectation of employment continuity (Ashford et al., 1989; De Witte, 1999; Pearce, 1998; Klandermans, Hesselink, and Van Vuuren, 2010). For instance, some studies shows that high objective job security (permanent contract) is positively related to subjective job security and it lead to increased work performance by having positive work attitudes (e.g., higher level of organization commitment, higher job satisfaction) (Van Dyne and Ang, 1998; Benach, Amable, Muntaner, and Benavides, 2002). Some other studies find the opposite pattern (De Witte 1999; Hellgren and Sverke 1999; Bosman et al. 2005; De Witte 2005). In addition, still others show temporary employees exhibited lower objective and subjective job security (=high level of job insecurity), which was not related to work attitudes and behavior (Roskies and Guerin, 1990; De Whitte and Naswall 2003). The addition of “employee's sense of powerlessness to avert the anticipated loss” adds complexity to the new job insecurity construct that reduces the construct’s utility for assessing behavioral influences of objective job security and thus, yielded mixed and conflicting findings.

Recent OB & HRM research has not been conducive to applying findings across different institutional settings. Past research has moved in directions that are not conducive to using findings across all types of organizations. Although some studies (Brockner 1988; Cohen and Eimicke 1994) deal with relationships between public employee job security and their
attitudes and performance, most research following Greenhalgh and Rosenblatt (1984) focuses on private employment (e.g., mergers, acquisitions, economic instability) and are not well suited to understanding the government context. Thus, what we have learned from job insecurity studies is generally not helpful for government organization.

What Do We Know from Research on At-Will Employment

Another stream of research involves the motivational consequences of job security rules, as reflected in recent scholarship on at-will-employment systems as mechanisms for motivating public employees (Battaglio, 2010; Kellough and Nigro, 2006). Some states such as Georgia, Florida, and Texas and federal agencies such as the Departments of Homeland Security and Defense have shifted at least part of the legal basis of their employment relationship from a traditional job-tenure and merit-based system to an at-will employment model (Coggburn, 2006; Selden 2006; Perry 2010). The main logic behind converting from a traditional to an at-will-employment system is that it motivates poorly performing public employees by terminating people for cause – or for no reason at all (Coggburn, 2006; Battaglio, 2010; Kellough and Nigro, 2006). As Romzek (1985) notes, given that objective job security is a part of legal employment contract between employee and agency, objective job security can be regarded as a product of both contractual and institutional rules. “At-will employment” implies a different legal or institutional rule governing property rights of jobs and it implies a low level of objective job security. Even with all the attention to the relationship between at-will employment and employee involvement and performance, empirical research about this topic is underdeveloped. I draw two tentative generalizations from this research stream.
Research on how job security rules influence the motivation of civil servants yields ambiguous results. Many popular commentaries about job security assume that high security (i.e., long term contract) diminishes motivation to work, and it leads to decrease the employee performance, while low level of objective job security (i.e., At will employment) increase the motivation to work and it leads to high employee performance. However, the empirical evidence about how motivational consequences of job security rules and, in turn, to employee performance is ambiguous. Based on the 2005 survey of the 122 human resource directors in Texas, Coggburn (2006) investigated the use and impact of the at-will doctrine on agencies. The findings of his investigation implied that though most HR directors affirm at-will employment improves the responsiveness of employees, it also generates pessimism in the perception of HR directors regarding therefore limiting its ability to facilitate better efficiency, motivation, and management flexibility. In addition, based on the 2005 Georgian survey of human resource professionals, Battaglio (2010) embarked on a study aimed at finding out how employment at-will (EAW) affected the motivation of public employees. The findings of this study implied that the EAW schemes have immense negative effects on the motivation of public workers. The conclusion made from his study was that the EAW was not meeting its objective of motivating the productivity employees through removal of their job security.

Need for security is an important motivator in both the private and public sectors. In addition to the “at-will employment” research, the other stream of motivation research involves how job security as an extrinsic motivator affects public and private sector employees differently (Newstrom et al. 1976; Rainey 1982; Cacioppe and Mock 1984; Gabris and Simo 1995; Baldwin 1987; Wittmer 1991; Crewson 1997; Jurkiewicz et al. 1998; Huston, 2000). There are some studies which show that public employees do not give much importance to job security.
Crewson 1997). Others have the opinion that there is no difference among the employees belonging to the two sectors, regarding the needs of job security (Rainey 1982; Wittmer 1991; Gabris and Simo 1995). Moreover, the findings of some other studies show that public employees give higher importance to job security (Baldwin 1987; Huston 2000; Jurkiewicz et al. 1998).

The empirical evidence about how job security as an extrinsic motivator affects public and private sector employees yields mixed findings. Based on the data from the General Social Survey (GSS), however, Frank and Lewis (2004) found employees in “both private and public sector assigned quite similar importance to job security” (Frank and Lewis, 2004, p.43). Specially, Frank and Lewis’s study also shows that in both the private and public sector, “job security is the only extrinsic motivator even marginally significantly related to work effort” (Frank and Lewis 2004, 44). This finding suggests that need for security is an important motivator in both public and private sectors (Perry et al. 2010) and scholars need to get on with research about the motivational effects of job security in traditional civil service systems.

Summary

In sum, Greenhalgh and Rosenblatt (1984) broadened job security research and theory to understand the nature, causes, and consequences of job insecurity. This breakthrough has also come with costs. In recent years, research on job security has looked almost exclusively at subjective job insecurity. Research on how objective and subjective job security relate to one another is sparse. Recent job security research has given some attention to employee performance. Little research has explicitly investigated the relationship between job security
rules and motivation of civil servants. Need of security as a moderator for job security study is under developed. In addition, no empirical research has investigated about the relationship between job security practices and public trust. We turn now to synthesizing a model and integrating the streams of research.

**Synthesis of a Model**

I next synthesize a model of job security associated with the empirical phenomenon based on review studies that answer different research questions about job security. Figure 1 presents a model that summarizes the diverse job security issues considered by the empirical studies reviewed above. The model depicts how job security influences employee behavior and work attitudes.

**Figure 1**

*Summary of Issues and Relationships Considered in Empirical Studies on Job Security*
Despite some inconsistent findings, the research identifies a variety of determinants of subjective job security and shows subjective job security can impact not only employee health related behaviors, but also employee work attitudes and behavior (e.g., job satisfaction, organizational commitment, and employee performance). In addition, research concludes that social support and control at work moderate the relation between job security and employee work behavior and attitudes (Bussing 1999).

After reviewing and synthesizing the empirical literature on job security, however, several gaps are evident.

First, research on relationships between job security and employee work attitudes and behavior have produced an especially large number of mixed and conflicting findings. Second, how institutional features of objective job security influence subjective job security, employee behavior, work attitudes and behaviors, and their performance need to be examined in more detail. Third, in relation to the amount of research that has been conducted on subjective job insecurity, relatively studies on which and how organizational (or human resource management) practices affect work attitudes and behavior with attention given to the institutional rules associated with (objective) job security have underdeveloped.

The research synthesis has identified clear gaps in our understanding of job security, particularly in the context of public institutions. I now turn to three empirical essays to address and fill gaps in previous research on public job security.
Chapter 3 (Essay 1): The Relationship between Job Security and Work Attitudes: A Meta-Analysis Examining Competing Theoretical Models

The relationship between job security and work attitudes has been given significant emphasis in scholarship. This research topic has played a central role in research in organizational behavior and human resource management subsequent to Greenhalgh and Rosenblatt (1984). However, the relationship’s form as well as its strength has not been made clear; regarding questions of job security and work attitudes. Positive (e.g., Jandaghi et al. 2011; Harris et al. 2009; Davy et al. 1997; Preuss and Lautsch 2002), negative (e.g., Cavanaugh and Noe 1999; Andaleeb 1996; Jeon 2009; Durst and DeSantis 1997) and curvilinear (e.g., Brockner et al. 1992) relationships have all been found. The objective of this analysis will be to clarify this association by conducting a quantitative synthesis of previous studies considering job security’s effect on work attitudes (i.e., job satisfaction and organizational commitment). Apart from the study of the variable relationship between job security and employee work attitudes, the present study will also intend to identify the moderators of these relationships. Five significant moderators will be highlighted: named organizational type; employee’s nationality; tenure; age; proportion of females. By this, the variability of the findings from the research literature will be explained. For testing these hypotheses, meta-analytic methods will be used in this study. Because competing theoretical perspectives will be considered, the results will be helpful for resolving the theoretical debate concerning job security and work attitudes (i.e., job satisfaction and organizational commitment). They will also be helpful for clarifying the variability noticed among these studies and in this way it will be clarified as to when job security may increase or outcome of work attitude may decrease. Finally, they are relevant as to what extent different (levels of) or job securities help or obstruct the outcome of work attitudes or whether they
hamper at all. In this way, interventions will be identified which can increase the outcome of work attitude.

**Hypothesized Relationships between Job Security and Work Attitudes**

The study will begin by reviewing the different theoretical models and the imagined relationships between job security and outcome of work attitudes. Job security is termed as the legal employment done between the agency and the employee so that continued employment will be assured (Romzek 1985, 283; Greenhalgh and Rosenblatt 1984, 439). Keeping in view the theoretical model for job insecurity, Greenhalgh and Rosenblatt claimed that job insecurity, which is a form of the individual’s subjective threat, results from objective threat interpreted through the intuitive procedure of the individual. According to their argument, job insecurity is expected to have an impact on different individual employee behaviors like productivity, turnover or resistance to change. Based on their theoretical ground, it is believed by the researchers that the workers who are in permanent jobs, (high level of objective job security) will have little impression of job insecurity (high level of apparent job security) than those workers who are employed on short-term contract (low level of objective job security). This increases the positivity of the employees’ work attitude as they are assured of having continued employment (Ashford, Lee and Bobko 1989; De Witte, 1999; Pearce 1998; Klandermans et al 2010). So the following hypothesis can be suggested:

**Hypothesis 1a:** There is a positive relationship between job security and employee work attitudes (i.e., job satisfaction and organizational commitment).
On the other hand, according to other theoretical approaches, work attitudes are lessened by job security (job satisfaction and organizational commitment). There are several famous observations about job security which underscore that motivation of work is reduced by high security (long-term contract). Thus the performance of the employee is reduced by it, while if there is less job security (at-will employment) it increases the motivation towards work, thereby resulting in higher performance from the employee. To be brief, the employee will not be motivated sufficiently by higher job security since they will have already been satisfied (Brockner et al. 1992). So, the alternative hypothesis that can be projected is:

Hypothesis 1b: There is a negative relationship between job security and employee work attitudes (i.e., job satisfaction and organizational commitment).

A third alternate form of the relationship between job security and work attitudes has been proposed by the some scholars. There may be a curvilinear relationship between job work attitudes and job security (Brockner et al. 1992). According to the too-much-of-a-good thing (TMGT) effect theory (Pierce and Aguinis 2013), there might be a positive relationship between job security and work attitudes or behavior, however, only to a certain extent. If job security is assured to a higher level, it might have a negative relationship with regard to work attitudes. So, the work attitudes of the employee will be higher at reasonable levels of job security, but not in lower or higher levels. On the contrary, if job security gets significantly lowered or if it becomes
excessively raised there can be a lack of motivation, which can create obstacles in case of work attitudes or performance.

For testing a curvilinear relationship, the job security (or insecurity) is quantified regarding the mean job security, so that higher mean job security (or job insecurity) for each sample point to more job security (or job insecurity) intensity. The code of job security (or insecurity) was given 1 (low level) when mean job security is given between 1 and 2.5 (or mean job insecurity is given between 3.5 and 5). The code of job security (or insecurity) was set 2 (moderate level) when mean job security (or insecurity) is set between 2.5 and 3.5. The code of job security intensity was set at 3 (high level) when mean job security is between 3.5 and 5 (or mean job insecurity is given between 1 and 2.5). So, an inverted-U shaped form is proposed here:

Hypothesis 1c: There is a curvilinear (in an inverted U-shaped form) relationship between job security and employee work attitudes (that is job satisfaction and organizational commitment).

**Moderators of the Job Security and Relationships of Work Attitudes**

Apart from the study of the association of job security with respect to work-related attitudes (job satisfaction and organizational commitment), another objective of this study is to identify the moderators of these entire relationships. The variability of the findings in the research literature will be clarified by concentrating on five significant moderators which have been left uninvestigated.
Organizational type is considered to be the first moderator variable. Since public and private organizations differ institutionally, relationships with job security must be different. So the generalizable design between job security and work attitudes and behaviors could be affected depending upon the fact whether the type of organization is public or private. There are some studies which show that public employees do not give much importance to job security (Crewson 1997). Others have the opinion that there is no difference among the employees belonging to the two sectors, regarding the needs of job security (Rainey 1982; Wittmer 1991; Gabris and Simo 1995). Moreover, the findings of some other studies show that public employees give higher importance to job security (Baldwin 1987; Huston 2000; Jurkiewicz et al. 1998). In the author’s view, the employees of public organizations give much more value to job security than that of the private organization employees. So, the hypothesis will be:

Hypothesis 2a: The relationship between job security and job satisfaction is dependent on the organization type. To be more specific, if comparison is made with private organizations, public organizations are more positive regarding the relationship between job security and job satisfaction.

Hypothesis 2b: The relationship between job security and organizational commitment is dependent on the organization type. To be more specific, if comparison is made with private organizations, public organizations are more positive regarding the relationship between job security and organizational commitment.
Country of Origin

Differences in country of origin may be in systematic association with the relationship between job security and work-related attitude. An amazing majority (more than 60%) of studies are based on the current data from the U.S., Canada, and Europe, while the remainder of the studies is from Africa, Middle East, South America and Asian countries on this study. One of the reliable findings is that cultural values are helpful in studying the differences in variables that are related to work (Schwartz 1999). For example, people are inspired by Confucianism in the pursuit of long-term benefits and to withstand short-term loss (King and Bond 1985). The role of country of origin as a moderator is studied herein to better understand the relationship of job security and work related attitudes. Here the hypothesis will be:

Hypothesis 3a: The relationship between job security and job satisfaction is dependent on the country of origin. If a comparison is made with the North America and Europe, the relationship between job security and job satisfaction for Asian, Africa, Middle East, and South America samples will be found to be more positive.

Hypothesis 3b: The relationship between job security and job satisfaction is dependent on the country of origin. If comparison is made with the North America and Europe, the Asian, Africa, Middle East, and South America will be found to be more positive regarding the relationship between job security and job satisfaction.
Age of Employee

Age is related to aspects of career trajectory as well as the role of psychology in a person’s life events. So, age has a connection to one’s position in the organization as well as with those aspects which are beyond the area of work such as social life or family. According to the researchers’ opinion, older employees with the responsibility of family may be more thoughtful about their job security than younger employees (Finegold et al. 2002; Kuhnert and Vance 1992). Moreover, the older employees are more distressed by the fear of losing their jobs than younger employees, since the younger ones have more mobility than the older ones in terms of occupation (Kuhnert and Vance 1992). Therefore, the hypothesis will be:

Hypothesis 4a: The relationship between job security and job satisfaction is dependent on the employee’s age. To be more specific, if comparisons are made with the younger employees, the relationship between job security and job satisfaction will be found to be more positive in case of the older employees.

Hypothesis 4b: The relationship between job security and organizational commitment is dependent on the employee’s age. To be more specific, if comparisons are made with the younger employees, the relationship between job security and organizational commitment will be found to be more positive in case of the older employees.
An aspect of the moderating impacts of tenure on the organizational commitment is that employees with limited term are not certain whether they will be able to perform up to the mark in a new job and so their level of commitment and motivation toward the organization increases (Wright and Bonett 2002, 1184). Still, many studies have shown that there is positive relationship between the tenure of the employee and organizational commitment (Mathieu and Zajac 1990; Abdullah and Ramy 2012). The employees who have long terms with the organization are more committed than those employees having short terms (Greenhalgh and Rosenblatt 1984; Abdullah and Ramy 2012). So, the hypothesis will be:

Hypothesis 5a: The relationship between job security and job satisfaction is dependent on the employees’ tenure. If comparison is made with the employees having short term, the relationship between job security and job satisfaction will be proved to be more positive than in the case of the employees having long tenure.

Hypothesis 5b: The relationship between job security and organizational commitment is dependent on the employees’ tenure. The relationship between job security and organizational commitment for long tenured employees is found to be more positive if they are compared to the short tenured employees.
Difference of sex in job security has been found by several studies (Rosenblatt et al. 1999; De Witte 1999). Some research findings have claimed that with respect to job security, male employees are more cautious than their female counterparts as the female employees remain more concerned with economic insecurity. However, in the opinion of Rosenblatt et al. (1999), as compared to women, men are less distressed by the fear of losing the job than women as generally speaking, men have greater mobility regarding their occupation than women. Specifically, their contention is that female employees are more concerned with their job security than male employees. So, in regards to this data the hypothesis will be:

Hypothesis 6a: The relationship between job security and job satisfaction is dependent on the extent to which the employees are female and the relationship becomes more positive when more of the study sample is female.

Hypothesis 6b: The relationship between job security and organizational commitment is dependent on the extent to which the employees are female and the relationship becomes more positive when more of the study sample is female.

Methods

Details about the used data and statistical methods for investigating competing theoretical models regarding job security’s impact on the work attitudes of employees (job satisfaction and organizational commitment) are provided in this section. The factors which can explain
differences between the studies are also identified. I begin with discussing the databases I used to test the hypotheses.

**Summary of Literature Searches**

A wide literature search has been conducted, which is based on computer-based findings and manual so that studies published (and unpublished studies) from 1980 to January 2014 can be identified. Investigating the literature on job security and employee work attitudes (i.e., job satisfaction and organizational commitment) more thoroughly and in order to avoid any preferences in the inclusion of the studies, a series of search strategies have been undertaken. At first, the Psych Info, Social Sciences Citation Index and ABI/Inform databases were searched for the identification of studies on the relationship between job security (and job insecurity) and work attitudes (job satisfaction and organizational commitment). For the computer-oriented literature search, many keywords were used (for instance, I searched for the keywords “Job Security” or “Job Insecurity” in combination with the keywords “Job Satisfaction” or “Organizational Commitment”).

Secondly, a manual article-by-article search was conducted throughout several management, organizational behavior and human resource journals. In that search, thirty-two journals¹ from 1980 to 2014 were examined.

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Third, attempts were made with respect to identification as well as for gaining access to those studies conducted in countries where English is not spoken and published in journals using other languages besides English. For instance, a number of studies were published in Spain, Nigeria, Netherlands, Peru, Pakistan, Turkey and South Korea and were incorporated in the database.

Regarding the three search approach, a preliminary database consisting of 298 articles was set up for further examination. In the present meta-analysis of job security, studies should be in English and the subjective experiences of job security of the employees should be measured. Additionally, they have to submit reports of zero-order correlations or other statistical relationships between the job security (insecurity) of individual employees and criteria variables of interest (meaning job satisfaction and organizational commitment). After the application of these decision rules, the final database consisting of 37 articles reported effect sizes for 45 independent studies or samples totaling N of 27,871. A list of all the studies which have been used in the meta-analysis is marked by an asterisk in the Reference section.

Coding of Studies

After selection of the studies, each individual study based on the outcome variable have been examined and the size of sample and the effect size coded. The effect size on the basis of Pearson correlations from each sample was also coded. If there was any effect size having an opposite orientation, it was recorded to reflect the proper direction of the effect (Pearson correlation between job insecurity and work attitudes).

Other variables were coded in order to examine the potential moderators associated with the interest. For testing a curvilinear relationship, the job security (or insecurity) is quantified
regarding the mean job security, so that higher mean job security (or job insecurity) for each
sample point to more job security (or job insecurity) intensity. The code of job security (or
insecurity) was given 1 (low level) when mean job security is given between 1 and 2.5 (or mean
job insecurity is given between 3.5 and 5). The code of job security (or insecurity) was set 2
(moderate level) when mean job security (or insecurity) is set between 2.5 and 3.5. The code of
job security intensity was set at 3 (high level) when mean job security is between 3.5 and 5 (or
mean job insecurity is given between 1 and 2.5).

Secondly, in order to assess the type of organization, all of the studies were categorized
according to organization type. Coding for the type of organization was done directly, since all
the studies were clearly distinguishable as public-nonprofit, private and mixed-hybrid.

Third, studies were coded for the sample of origin. A great portion (more than 60%) of
the studies is based on U.S., Canada, and Europe, while the remainder of the studies is from
Africa, Middle East, South America and Asian countries. In each of the studies the sample of
origin was coded through their classification into one of three extensive samples of origin
categories. So, the North America, Europe, and Asia, Africa, South American, and Middle East
are included in the sample of origin category.

Fourthly, I followed Ng and Feldman (2008)’s rule. Thus, the chronological age of each
sample was classified into one of the three groups. This was done on the basis of the distribution
of mean ages for all study samples included in the meta-analysis (Ng and Feldman 2008). The
distribution of mean ages spans: mean age less than 35 years; mean age between 35-40 years and
mean age over 40 years.
Fifth, to study the impact of tenure, each study was coded regarding the tenure of mean ranging from: mean tenure of less than 11 years; mean tenure between 11-14 years and for over 14 years.

Lastly, each study was coded regarding the percentage of females in the study sample, and after that the percentage of the study sample of females was classified into three groups. This was done on the basis of the percentage distribution of the female worker for all the study samples included in the meta-analysis. The distribution was: percentage of female workers less than 25%; percentage of female workers between 25%-50%; and percentage over 50%.

Analysis

Using the formulas of Hunter and Schmidt (1990 and 2004) that included corrections for measurement as well as sampling errors, the random effects analysis is was calculated. The correlation coefficients between job security and work-related attitudes (job satisfaction and organizational commitment) are the two effect sizes of interest. The following procedures were employed: 1) information on three distributions (observed correlations, consistency of the independent variable and dependent variable) have been assembled by the studies; 2) Where correlations were not reported, correlations were calculated from other effect sizes like means and standard deviations of $t$, $F$ values, or other algebraically statistics transformable on the basis of formulas reported by Hunter and Schmidt (2004), Rosnow, Rosenthal, and Rubin (2000); 3) Correlations of work attitudes (job satisfaction and organizational commitment) resulting from one study and suggesting the same category were summed up in order that the assumption of independence not be broken up by the average correlations (Hunter and Schmidt 2004; Bal et al. 2008); 4) each correlation was corrected for the statistical artifact of sampling error and
measurement error (Kooij et al. 2010, p. 1119 and Taft et al. 2011, p. 25). As such, the difference caused by the error of sampling and other objects is deducted and the remaining part is the estimation of the difference of population (see Taft et al. 2011, p. 25). 5) Where the dependability of study was not reported, the mean of the other present reliabilities of the particular correlation replaced it (Kooij et al. 2010, p. 1119 and Hunter and Schmidt 1990 and 2004); 6) For the interpretation of the validity generalization results, confidence interval was used, meaning the confidence interval of a significant mean correlation does not include zero (Kooij et al. 2010, p. 1119); 7) Regarding the guidelines proposed by Cohen (1992, 1998), the magnitude of the mean correlation was interpreted; with 0.1 interpreted as having small effect; 0.3 as medium effect and 0.5 as large effect (Kooij et al. 2010, p. 208).

The 75% rule is offered as a rule of thumb by Hunter and Schmidt (2004) for identifying the potential of moderated relationships. It means if sampling error and measurement unreliability between samples explains 75% or more variance in studies, the remaining 25% appears to originate from uncontrolled artifacts. If we account for 75% of the variance or less, or the corrected variance is still large, then the next step is to test for the influence of moderator variables (Sagie and Koslowsky, 1993; Hunter and Schmidt, 2004, p. 145-146). Secondly, for assessing the accuracy and distribution of effect sizes estimates (Whitener 1990) confidence interval as well as credibility intervals were calculated. Third, I computed the Q homogeneity statistic, which yields a significant chi-square when moderators exist (Hunter & Schmidt, 1990: 168; Griffeth, Hom, and Gaertner, 2000, p. 477). Finally, the subset method proposed by Hunter and Schmidt (p.293) was followed to assess whether the relationships between job security and work attitudes were actually moderated by the coded variables (job satisfaction and
organizational commitment). This method requires studies to be assigned to different subsets and to perform a distinct meta-analysis within each subject.

**Description of the Selected Studies**

Twelve of the selected studies were conducted among the employees of public organizations whereas employees in private organizations were examined by nineteen. A sample of North American origin was examined by fourteen studies and nineteen studies examined samples having European origin. Nine samples having Middle East, South American, Asian and African origin were also examined. From the various studies the mean ages ranged from 27.5 to 48 years. The average tenure of the various studies had a range between 1.72 to 21 years. In Table 1, sample characteristics, sample size, average age, mean tenure, proportion of female employee, reliability of job security and the relationships between job security and work attitudes (job satisfaction and organizational commitment) and their reliabilities are listed. The correlations between job security and job satisfaction are shown to range from -0.08 to 0.54 and correlation with organizational commitment from -0.09 to 0.97. So, it is expected that specific characteristics of the studies moderate the relationships (Hunter and Schmidt 2004) and that the relationship is expected to be an inverted U-shape (non-linearity). The measurement of reliabilities of job security ranged between 0.68 to .097 and the reliability of job satisfaction ranged between 0.64 to 0.96 and organizational commitment is between 0.6 to 0.91.
<table>
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<tr>
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<th>Sample</th>
<th>Organizational type</th>
<th>Age</th>
<th>Tenure</th>
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<th>N</th>
<th>Rxx Job Security</th>
<th>Satisfaction Rxy</th>
<th>Ryy</th>
<th>Commitment Rxy</th>
<th>Ryy</th>
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<td>21</td>
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<td>-</td>
<td>5</td>
<td>178</td>
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<td>Mean Age</td>
<td>Mean Years of Service</td>
<td>Mean Turnover</td>
<td>Mean Job Satisfaction</td>
<td>Mean Collectivism</td>
<td>Mean Individualism</td>
<td>Mean Total</td>
<td>Mean Innovativeness</td>
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<td>48</td>
<td>25</td>
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<td>-</td>
<td>-</td>
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<td>Private</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>67</td>
<td>-</td>
<td>0.33</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keil et al. (2000)</td>
<td>Canada Nurses</td>
<td>Hybrid(Hospital)</td>
<td>38.3</td>
<td>10.92</td>
<td>100</td>
<td>204</td>
<td>0.87</td>
<td>0.23</td>
<td>0.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hybrid(Hospital)</td>
<td>38.53</td>
<td>11.24</td>
<td>100</td>
<td>251</td>
<td>0.87</td>
<td>0.35</td>
<td>0.86</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Konig et al. (2011)</td>
<td>Switzerland's working students enrolled in a Master of Advanced Studies course of a well-established university</td>
<td>Mixed</td>
<td>-</td>
<td>-</td>
<td>37</td>
<td>315</td>
<td>0.81</td>
<td>0.36</td>
<td>0.77</td>
<td>0.28</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>U.S. working students in the Pacific Northwest</td>
<td>Mixed</td>
<td>-</td>
<td>-</td>
<td>65</td>
<td>488</td>
<td>0.75</td>
<td>0.49</td>
<td>0.76</td>
<td>0.41</td>
<td>0.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Research Design</td>
<td>Region</td>
<td>Industry</td>
<td>Type</td>
<td>Duration</td>
<td>Start</td>
<td>End</td>
<td>30</td>
<td>60</td>
<td>90</td>
<td>360</td>
<td>1080</td>
</tr>
<tr>
<td>-------</td>
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<td>------</td>
</tr>
<tr>
<td>23 Koustelios et al. (2003)</td>
<td>Greek fitness instructors</td>
<td></td>
<td></td>
<td>Private</td>
<td>27.5</td>
<td>-</td>
<td>70</td>
<td>97</td>
<td>0.88</td>
<td>0.41</td>
<td>0.89</td>
<td>-</td>
</tr>
<tr>
<td>24 Liou (1998)</td>
<td>U.S. detention workers in two metropolitan detention centers in a southeastern state</td>
<td></td>
<td></td>
<td>Public</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>70</td>
<td>-</td>
<td>0.38</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>25 Lord and Hartley (1998)</td>
<td>U.K. national and public service organization employee</td>
<td></td>
<td></td>
<td>Public</td>
<td>-</td>
<td>-</td>
<td>23</td>
<td>167</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.48</td>
</tr>
<tr>
<td>26 Major et al. (2013)</td>
<td>U.S. IT employers</td>
<td></td>
<td></td>
<td>Hybrid</td>
<td>42.1</td>
<td>10.4</td>
<td>-</td>
<td>1229</td>
<td>0.89</td>
<td>-</td>
<td>-</td>
<td>0.48</td>
</tr>
<tr>
<td>27 Noble (2008)</td>
<td>U.S. filed sales managers of a national car rental chain</td>
<td></td>
<td></td>
<td>Private</td>
<td>26.4</td>
<td>1.72</td>
<td>34.8</td>
<td>138</td>
<td>0.45</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>28 Preuss and Lautsch (2002)</td>
<td>U.S. employees in fifteen hospitals in U.S. metropolitan region</td>
<td></td>
<td></td>
<td>Hybrid</td>
<td>-</td>
<td>12.1</td>
<td>-</td>
<td>1616</td>
<td>0.06</td>
<td>0.69</td>
<td>0.06</td>
<td>0.66</td>
</tr>
<tr>
<td>29 Probst (2000)</td>
<td>U.S. Five State Public employees</td>
<td></td>
<td></td>
<td>Public</td>
<td>-</td>
<td>-</td>
<td>63.6</td>
<td>283</td>
<td>0.97</td>
<td>0.12</td>
<td>0.9</td>
<td>0.23</td>
</tr>
<tr>
<td>30 Reimardy (2012)</td>
<td>U.S. Journalists</td>
<td></td>
<td></td>
<td>Private</td>
<td>44</td>
<td>13</td>
<td>-</td>
<td>2159</td>
<td>0.68</td>
<td>0.29</td>
<td>0.88</td>
<td>-</td>
</tr>
<tr>
<td>31 Reisel et al. (2010)</td>
<td>U.S. managers</td>
<td></td>
<td></td>
<td>Private</td>
<td>35.7</td>
<td>4.28</td>
<td>34</td>
<td>320</td>
<td>0.8</td>
<td>0.24</td>
<td>0.92</td>
<td>-</td>
</tr>
<tr>
<td>32 Silla et al. (2010)</td>
<td>Spain public organization employees</td>
<td></td>
<td></td>
<td>Public</td>
<td>39.9</td>
<td>11.67</td>
<td>50.4</td>
<td>697</td>
<td>0.88</td>
<td>0.08</td>
<td>0.64</td>
<td>0.24</td>
</tr>
<tr>
<td>33 Sora et al. (2010)</td>
<td>Spain employees</td>
<td></td>
<td></td>
<td>Private</td>
<td>34.4</td>
<td>-</td>
<td>50.5</td>
<td>942</td>
<td>0.84</td>
<td>0.28</td>
<td>0.81</td>
<td>0.32</td>
</tr>
<tr>
<td>34 Sora et al. (2009)</td>
<td>Spain employees</td>
<td></td>
<td></td>
<td>Private</td>
<td>32.96</td>
<td>-</td>
<td>48</td>
<td>550</td>
<td>0.84</td>
<td>0.31</td>
<td>0.8</td>
<td>0.37</td>
</tr>
<tr>
<td>35 Van Echteld et al. (2013)</td>
<td>Belgian organization employees</td>
<td></td>
<td></td>
<td>Private</td>
<td>35.66</td>
<td>-</td>
<td>63</td>
<td>550</td>
<td>0.88</td>
<td>0.16</td>
<td>0.84</td>
<td>0.21</td>
</tr>
<tr>
<td>36 Yousef (1997)</td>
<td>Netherlands military employees United Arab Emirates (UAE) employees (government sector, private sector, and joint sector)</td>
<td></td>
<td></td>
<td>Public</td>
<td>34</td>
<td>-</td>
<td>7</td>
<td>3580</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.18</td>
</tr>
<tr>
<td>37 Zeytinoglu et al. (2013)</td>
<td>Turkish service sector employees</td>
<td></td>
<td></td>
<td>Private</td>
<td>-</td>
<td>-</td>
<td>58</td>
<td>407</td>
<td>0.86</td>
<td>0.53</td>
<td>0.94</td>
<td>-</td>
</tr>
</tbody>
</table>
Results

Number of outcomes (k) participants in each analysis (N), weighted (uncorrected and corrected) mean random-effect sizes (mean r and ρ), 95% confidence interval, two homogeneity statistics, the 95% interval credibility and the percentage of variance accounted for by measurement and sampling error are included in Table 2. Hypotheses 1a, 1b, and 1c that indicate a positive, a negative or a curvilinear relationship among work attitudes and security of work respectively by examination of the overall results of Table 2 analysis has been considered. However, these results do not offer support to Hypotheses 1b or 1c. Rather the results of the entire analysis shows that when there is job security, job satisfaction tends to increase (true score correlation $\rho = 0.32$) and commitment of organization ($\rho = 0.25$ is true score correlation), in homogeneity significance is indicated by the statistics of homogeneity. Additionally, this mean underlies the effect size. Following Cohen’s (1988) framework, the magnitude of the two effects are of the medium range. Moreover, the confidence intervals do not include zero which indicates significant difference from zero.

Table 2. Meta-analytic results of relationship between job security and job satisfaction and organizational commitment

<table>
<thead>
<tr>
<th>Outcome</th>
<th>k</th>
<th>N</th>
<th>$\bar{r}$</th>
<th>$\rho$</th>
<th>$SD_\rho$</th>
<th>95%Confidence Interval</th>
<th>Var. expl.</th>
<th>95% Credibility Interval</th>
<th>Q-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction</td>
<td>37</td>
<td>20670</td>
<td>0.273</td>
<td>0.3275</td>
<td>0.1856</td>
<td>0.260 to 0.285</td>
<td>6.89</td>
<td>-0.036 to -0.069</td>
<td>536.6*</td>
</tr>
<tr>
<td>Organizational Commitment</td>
<td>30</td>
<td>19312</td>
<td>0.207</td>
<td>0.2537</td>
<td>0.2012</td>
<td>0.193 to 0.220</td>
<td>5.7</td>
<td>0.648 to 0.648</td>
<td>525.4*</td>
</tr>
</tbody>
</table>

*p<.05

Note. k= the number of studies; samples; N=the number of individuals in the k samples; $\bar{r}$= sample-size-weighted uncorrected correlation; $\rho$=mean true score correlation; $SD_\rho$=standard deviation of true score correlation; 95% confidence Interval=95% confidence interval for $\rho$; Var.expl.= percentage of variance in corrected correlations attributable to all the artifacts considered; Credibility Interval=95% credibility interval for $\rho$; Q-statistic=Chi-square test for moderators.
Since the first stages of analysis were not in favor of Hypotheses 1b and 1c, subgroup analysis was carried out to examine the relationships of inverted U-shapes. As noted earlier, a curvilinear relationship between job security and work attitudes (job satisfaction and organizational commitment) was proposed, with work attitudes increasing during low level of job security intensity, peaking during medium level of job security intensity, and declining thereafter. To investigate these possibilities, mean job security (or job insecurity) were first subdivided into three level of job security intensity (Low, Moderate, and High). Thus, job security intensity undertaken by moderator analyses showed the creation of a moderate impact on the relationship between job security and job satisfaction (Table 3). If results shows that for the low level job security intensity, the correlation is positive; for the moderate level job security intensity, the correlation is approximately zero; and for the high level job security intensity, the correlation is negative, we can conclude that there will be a curvilinear relationship between job security and job satisfaction. However, current results show that the pattern across job security intensity levels was not consistent with the curvilinear hypothesis. For the low level job security intensity, the correlation was positive ($\rho = .271$); for the moderate level job security intensity, the correlation was also positive ($\rho = .264$); for the high level job security intensity, the correlation was more positive ($\rho = .326$). In particular, the pattern of results suggests a positive linear relationship between job security and job satisfaction, with changing job security intensity.
Next, job security intensity undertaken by moderator analyses showed the creation of a moderate impact on the relationship between job security and organizational commitment (Table 4). Current results show that the pattern across job security intensity levels was not consistent with the curvilinear hypothesis. For the all level job security intensity (low, moderate, and high), the correlations were positive ($\rho = .258$, $\rho = .249$, $\rho = .235$, respectively). Thus, the pattern of results suggests a positive linear relationship between job security and organizational commitment, with changing job security intensity. Considering the results comprehensively, it appears that Hypothesis 1c is not supported, but confirms Hypothesis 1a.

Table 3. Meta-analytic results of moderator analyses by job security intensity (Relationship between Job Security and Job Satisfaction)

<table>
<thead>
<tr>
<th>Moderator</th>
<th>k</th>
<th>N</th>
<th>$\bar{r}$</th>
<th>$\rho$</th>
<th>$SD_\rho$</th>
<th>95% Confidence Interval</th>
<th>Var. expl.</th>
<th>95% Credibility Interval</th>
<th>Q-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Level Job Security Intensity</td>
<td>3</td>
<td>688</td>
<td>0.234</td>
<td>0.2715</td>
<td>0.1603</td>
<td>0.163 to 0.304</td>
<td>17.52</td>
<td>0.163 to 0.304</td>
<td>17.1*</td>
</tr>
<tr>
<td>Moderate Level Job Security Intensity</td>
<td>7</td>
<td>2283</td>
<td>0.218</td>
<td>0.2648</td>
<td>0.1271</td>
<td>0.178 to 0.256</td>
<td>21.02</td>
<td>0.015 to 0.513</td>
<td>33.3*</td>
</tr>
<tr>
<td>High Level Job Security Intensity</td>
<td>15</td>
<td>13945</td>
<td>0.269</td>
<td>0.3261</td>
<td>0.3791</td>
<td>0.254 to 0.285</td>
<td>1.15</td>
<td>-0.41 to 1.06</td>
<td>1299.6*</td>
</tr>
</tbody>
</table>

*p<.05

Note. k= the number of studies; samples; $N=$the number of individuals in the k samples; $\bar{r}=$ sample-size-weighted uncorrected correlation; $\rho=$mean true score correlation; $SD_\rho=$standard deviation of true score correlation; 95% confidence Interval=95% confidence interval for $\rho$; Var.expl.= percentage of variance in corrected correlations attributable to all the artifacts considered; Credibility Interval=95% credibility interval for $\rho$; Q-statistic=Chi-square test for moderators.
Table 4. Meta-analytic results of moderator analyses by job security intensity  
(relationship between job security and organizational commitment)

<table>
<thead>
<tr>
<th>Moderator</th>
<th>k</th>
<th>N</th>
<th>(\bar{r})</th>
<th>(\bar{\rho})</th>
<th>(SD_\rho)</th>
<th>95% Confidence Interval</th>
<th>Var. expl.</th>
<th>95% Credibility Interval</th>
<th>Q-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Security Intensity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Level Job Security</td>
<td>2</td>
<td>688</td>
<td>0.223</td>
<td>0.2588</td>
<td>0.1369</td>
<td>0.151 to 0.294</td>
<td>16.43</td>
<td>-0.009 to 0.527</td>
<td>12.166*</td>
</tr>
<tr>
<td>Moderate Level Job Security</td>
<td>11</td>
<td>6702</td>
<td>0.198</td>
<td>0.2498</td>
<td>0.11177</td>
<td>0.175 to 0.221</td>
<td>16.85</td>
<td>0.018 to 0.4806</td>
<td>65.26*</td>
</tr>
<tr>
<td>High Level Job Security</td>
<td>12</td>
<td>10773</td>
<td>0.192</td>
<td>0.2353</td>
<td>0.2045</td>
<td>0.173 to 0.209</td>
<td>4.1</td>
<td>-0.165 to 0.636</td>
<td>291.99*</td>
</tr>
</tbody>
</table>

*p<.05

Note. k = the number of studies; samples; N = the number of individuals in the k samples; \(\bar{r}\) = sample-size-weighted uncorrected correlation; \(\bar{\rho}\) = mean true score correlation; \(SD_\rho\) = standard deviation of true score correlation; 95% confidence Interval = 95% confidence interval for \(\rho\); Var.expl. = percentage of variance in corrected correlations attributable to all the artifacts considered; Credibility Interval = 95% credibility interval for \(\rho\); Q-statistic = Chi-square test for moderators

Moderator Analyses

On the whole, the variation in percentages available from artifacts (e.g. sampling error) show a low range from 6.89% to 5.73% (Table 2) and were not a match to the 75% rule which Hunter and Schmidt (1990 and 2004) suggested is required as an indicator of the value of the critical moderator effects. Hence, it is necessary to investigate if the type of organization, employee nationality, age, tenure and proportion of female employee in moderation of relationships between job security and work attitudes (organizational commitment and job satisfaction) was important. Analyses of subgroup moderators for the relationship between job security, job satisfaction and organizational commitment are presented in Table 5 and 6 separately.
Subgroup Moderator Analyses for the Relationship between Job Security and Job Satisfaction

Organizational type moderator analyses results demonstrate that it significantly moderated the job security and job satisfaction relationship. It was predicted in Hypothesis 2a that there would be a more positive relationship between job satisfaction and public organization employees as opposed to private organization workers. However, there was failure in finding support for Hypothesis 2a. Rather, job security was more positively related to job satisfaction among employees of private sectors ($\rho = .372; 95\% \text{ CI} = .299, .329$) in relation to those of public organizations ($\rho = .188; 95\% \text{ CI}= .119, .192$).

According to country origin, moderator analyses showed that job security and job satisfaction relations were quite different. Hypothesis 3a explained that when the origin country is in Asia and Africa, the relation between job security and satisfaction is significantly positive. There is not supportive evidence of Hypothesis 3a as a positive relation between job satisfaction and job security among Europe ($\rho = .335; 95\% \text{ CI=} .268, .299$) larger than North America ($\rho = .286; 95\% \text{ CI} = .214, .259$) and Asian, Middle East, South America, African nationalities ($\rho = .209; 95\% \text{ CI}= .126, .209$).

Moderator analyses based on the age group of labor also showed relationships in moderation between job security and job satisfaction. The results were highly positive especially among the employees within the age group of 35 years less ($\rho = .272; 95\% \text{ CI} = .197, 255$), as compared to older aged employees that showed a lower positivity ($\rho =.251; 95\% \text{ CI}= .188, .239$). Here the relationship between job security and job satisfaction was higher among younger workers ($\rho =.272$) in comparison to samples of workers from the middle age group ($\rho =.256$) versus older workers ($\rho =.251$) and workers who are younger ($\rho =.272$). Hence, there was no support for Hypothesis 4a.
Tenure based moderator analyses also proved that tenure constituted a moderate relationship between job satisfaction and job security. This proves that effects would be stronger in cases where the tenure ranges 11 years less and between 11 to 14 years. Job security effects were the strongest in short tenure levels (11 years less) ($\rho = .371; \; 95\% CI = .221, .299$). Longer tenure showed weaker effects ($\rho = .208; \; 95\% CI = .147, .214$) and when the tenure was medium level (11 to 14 years), it was moderate effect ($\rho = .218; \; 95\% CI = .151, .201$). In sum, there was no support for Hypothesis 5a.

When moderator analyses are based on percentage of women workers, the samples show that female employees also affected the moderation of job satisfaction and job security relationship. According to Hypothesis 6a, the relation is better if there are more numbers of female workers. It was not found in support of Hypothesis 6a that the percentage of female workers is 25% less there are more positive relations ($\rho = .306; \; 95\% CI = .213, .299$) as compared to more than 50% of female workers ($\rho = .225; \; 95\% CI = .168, .213$).
Table 5. Meta-Analytic Results of Subgroup Moderator Analyses for the relationship between job security and job satisfaction

<table>
<thead>
<tr>
<th>Moderator</th>
<th>k</th>
<th>N</th>
<th>$\bar{r}$</th>
<th>$\rho$</th>
<th>$SD_\rho$</th>
<th>95%Confidence Interval</th>
<th>Var. expl.</th>
<th>95% Credibility Interval</th>
<th>Q-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public-Nonprofit</td>
<td>9</td>
<td>2762</td>
<td>0.155</td>
<td>0.187</td>
<td>0.094</td>
<td>0.119 to 0.192</td>
<td>34.39</td>
<td>0.002 to 0.373</td>
<td>26.165*</td>
</tr>
<tr>
<td>Private</td>
<td>18</td>
<td>0</td>
<td>0.314</td>
<td>0.3724</td>
<td>0.163</td>
<td>0.299 to 0.329</td>
<td>6.4</td>
<td>0.051 to 0.693</td>
<td>278.84*</td>
</tr>
<tr>
<td>Mixed-Hybrid</td>
<td>9</td>
<td>4694</td>
<td>0.177</td>
<td>0.2159</td>
<td>0.185</td>
<td>0.149 to 0.204</td>
<td>7.6</td>
<td>-0.145 to 0.577</td>
<td>117.82*</td>
</tr>
<tr>
<td>Country of Origin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North America</td>
<td>16</td>
<td>6685</td>
<td>0.2369</td>
<td>0.2864</td>
<td>0.1601</td>
<td>0.214 to 0.259</td>
<td>11.39</td>
<td>-0.027 to 0.600</td>
<td>131.68*</td>
</tr>
<tr>
<td>Europe</td>
<td>18</td>
<td>4</td>
<td>0.2838</td>
<td>0.3348</td>
<td>0.946</td>
<td>0.268 to 0.299</td>
<td>4.6</td>
<td>0.268 to 0.299</td>
<td>389.93*</td>
</tr>
<tr>
<td>Asia, Middle East, Africa</td>
<td>5</td>
<td>2081</td>
<td>0.168</td>
<td>0.2089</td>
<td>0.0947</td>
<td>0.126 to 0.209</td>
<td>28.66</td>
<td>0.023 to 0.395</td>
<td>17.44*</td>
</tr>
<tr>
<td>Labor Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age &lt;35</td>
<td>8</td>
<td>4084</td>
<td>0.226</td>
<td>0.272</td>
<td>0.1265</td>
<td>0.197 to 0.255</td>
<td>14.20</td>
<td>0.024 to 0.521</td>
<td>59.96*</td>
</tr>
<tr>
<td>Age 35-40</td>
<td>9</td>
<td>4340</td>
<td>0.216</td>
<td>0.256</td>
<td>0.093</td>
<td>0.187 to 0.244</td>
<td>24.51</td>
<td>0.072 to 0.439</td>
<td>36.71*</td>
</tr>
<tr>
<td>Age 40&gt;</td>
<td>8</td>
<td>5609</td>
<td>0.214</td>
<td>0.251</td>
<td>0.1284</td>
<td>0.188 to 0.239</td>
<td>10.79</td>
<td>-0.0003 to 0.50</td>
<td>74.13*</td>
</tr>
<tr>
<td>Tenure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenure &lt;11</td>
<td>6</td>
<td>2211</td>
<td>0.259</td>
<td>0.371</td>
<td>0.087</td>
<td>0.221 to 0.299</td>
<td>56.07</td>
<td>0.200 to 0.543</td>
<td>16.05*</td>
</tr>
<tr>
<td>Tenure 11-14</td>
<td>8</td>
<td>5988</td>
<td>0.176</td>
<td>0.218</td>
<td>0.161</td>
<td>0.151 to 0.201</td>
<td>7.6</td>
<td>0.151 to 0.201</td>
<td>105.13*</td>
</tr>
<tr>
<td>Tenure &gt;14</td>
<td>3</td>
<td>3175</td>
<td>0.180</td>
<td>0.208</td>
<td>0.116</td>
<td>0.147 to 0.214</td>
<td>8.13</td>
<td>-0.019 to 0.434</td>
<td>36.89*</td>
</tr>
<tr>
<td>Female Employee Percentage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;25%</td>
<td>4</td>
<td>1816</td>
<td>0.256</td>
<td>0.306</td>
<td>0.077</td>
<td>0.213 to 0.299</td>
<td>34.35</td>
<td>0.154 to 0.458</td>
<td>11.64*</td>
</tr>
<tr>
<td>25-50%</td>
<td>12</td>
<td>4781</td>
<td>0.265</td>
<td>0.319</td>
<td>0.099</td>
<td>0.238 to 0.291</td>
<td>25.11</td>
<td>0.125 to 0.515</td>
<td>47.77*</td>
</tr>
<tr>
<td>&gt;50%</td>
<td>13</td>
<td>6969</td>
<td>0.190</td>
<td>0.225</td>
<td>0.022</td>
<td>0.168 to 0.213</td>
<td>7.5</td>
<td>-0.122 to 0.571</td>
<td>171.92*</td>
</tr>
</tbody>
</table>

*p<.05

Note. k= the number of studies; samples; N=the number of individuals in the k samples; $\bar{r}$= sample-size-weighted uncorrected correlation; $\rho$=mean true score correlation; $SD_\rho$=standard deviation of true score correlation; 95% confidence Interval=95% confidence interval for $\rho$; Var.expl.= percentage of variance in corrected correlations attributable to all the artifacts considered; Credibility Interval=95% credibility interval for $\rho$; Q-statistic=Chi-square test for moderators.
Subgroup Moderator Analyses for Relationship between Job Security and Organizational Commitment

Organizational type moderator analyses showed that it moderated the relationship between job satisfaction and job security. According to Hypothesis 2b, the relationship between organizational commitment and public organization is higher as compared to private organization. As a support of Hypothesis 2b, it was found that job security was more positively related to organizational commitment among employees of public-nonprofit sector ($\rho = .264$; 95% CI= .198, .247) in comparison to private organization employees ($\rho = .196$; 95% CI= .142, .185). Apart from this, those working in mixed organizations (hybrid) were more related to job security and showed strongest the effects ($\rho = .319$; 95% CI=.226, .275).

Moderator analyses based on the employees’ country of origin showed great differences in the relationship. Hypothesis 3b proved that when the employees’ country of origin is Asia or Africa, the relationship job security is more positively related to organizational commitment. Hence there is supportive evidence of Hypothesis 3b as a more positive relations between job security and organizational commitment among Asia, Middle East, and African sample ($\rho = .385$; 95% CI=.268, .340) as compared to Europe ($\rho = .204$; 95% CI=.152, .186) and the US ($\rho = .327$; 95% CI=.240, .297).

Age based moderator analyses proved significant moderation in relationship among job security and organizational commitment. The results were highly positive especially among the employees within the age group of 35 years less ($\rho = .277$; 95% CI=.202, 247), as compared to older aged employees that showed a lower positivity ($\rho = .199$; 95% CI=.144, .200). Here the relationship between job security and organizational commitment was higher among younger workers ($\rho = .277$) in comparison to samples of workers from the middle age group ($\rho = .273$).
versus older workers ($\rho = .199$) and workers who are younger ($\rho = .272$). Hence, there was no support for Hypothesis 4a.

Moderator analyses that are based on tenure also showed that there is a significant relationship between job security and organizational commitment. But there was no support for Hypothesis 5b. The positive results of organizational commitment and job security were the highest for 11 years less ($\rho = .420; 95\% CI = .322, .390$) but was much lower in tenures between 11 -14 years ($\rho = .165; 95\% CI = .095, .170$). The weakest effects were observed in tenures above more than 14 years ($\rho = .111; 95\% CI = .064, .127$). In sum, there was no support for Hypothesis 5b.

Female workers moderator analyses sample show that there is a moderated relationship between job security and organizational commitment. Hypothesis 6b proved that if women workers were larger there is a more positive effect. But support for Hypothesis 6b was not available. In sum, the relationship between job security and organizational commitment becomes weaker when less than 25% of all employees consist of female workers ($\rho = .256; 95\% CI = .185, .238$) and when it is more than 50% of women comprising the employee group ($\rho = .163; 95\% CI = .233, .288$). When female workers comprise 25-50% of the workforce, the strongest effects are visible on organizational commitment ($\rho = .318$).
Table 6. Meta-Analytic Results of Subgroup Moderator Analyses for the relationship between job security and organizational commitment

<table>
<thead>
<tr>
<th>Moderator</th>
<th>k</th>
<th>N</th>
<th>$\bar{r}$</th>
<th>$\rho$</th>
<th>$SD_\rho$</th>
<th>95%Confidence Interval</th>
<th>Var. expl.</th>
<th>95% Credibility Interval</th>
<th>Q-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organizational Type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public-Nonprofit</td>
<td>8</td>
<td>5960</td>
<td>0.222</td>
<td>0.264</td>
<td>0.156</td>
<td>0.198 to 0.247</td>
<td>7.2</td>
<td>-0.042 to 0.571</td>
<td>109.61*</td>
</tr>
<tr>
<td>Private</td>
<td>12</td>
<td>7656</td>
<td>0.163</td>
<td>0.196</td>
<td>0.178</td>
<td>0.142 to 0.185</td>
<td>6.73</td>
<td>-0.153 to 0.545</td>
<td>178.21*</td>
</tr>
<tr>
<td>Mixed-Hybrid</td>
<td>10</td>
<td>5696</td>
<td>0.250</td>
<td>0.319</td>
<td>0.247</td>
<td>0.226 to 0.275</td>
<td>4.68</td>
<td>0.226 to 0.275</td>
<td>213.34*</td>
</tr>
<tr>
<td><strong>Country of Origin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North America</td>
<td>7</td>
<td>4077</td>
<td>0.268</td>
<td>0.327</td>
<td>0.241</td>
<td>0.240 to 0.297</td>
<td>4.08</td>
<td>-0.145 to 0.798</td>
<td>154.85*</td>
</tr>
<tr>
<td>Europe</td>
<td>15</td>
<td>1274</td>
<td>0.169</td>
<td>0.204</td>
<td>0.135</td>
<td>0.152 to 0.186</td>
<td>8.79</td>
<td>-0.060 to 0.468</td>
<td>170.61*</td>
</tr>
<tr>
<td>Asia, Middle East, Africa</td>
<td>7</td>
<td>2495</td>
<td>0.304</td>
<td>0.385</td>
<td>0.296</td>
<td>0.268 to 0.340</td>
<td>5.51</td>
<td>-0.197 to 0.965</td>
<td>144.93*</td>
</tr>
<tr>
<td><strong>Labor Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age &lt;35</td>
<td>6</td>
<td>6778</td>
<td>0.225</td>
<td>0.277</td>
<td>0.079</td>
<td>0.202 to 0.247</td>
<td>18.58</td>
<td>0.123 to 0.431</td>
<td>32.29*</td>
</tr>
<tr>
<td>Age 35-40</td>
<td>7</td>
<td>3751</td>
<td>0.221</td>
<td>0.273</td>
<td>0.188</td>
<td>0.190 to 0.251</td>
<td>7.46</td>
<td>-0.095 to 0.641</td>
<td>93.80*</td>
</tr>
<tr>
<td>Age &gt;40</td>
<td>7</td>
<td>4652</td>
<td>0.172</td>
<td>0.199</td>
<td>0.267</td>
<td>0.144 to 0.200</td>
<td>2.78</td>
<td>-0.324 to 0.722</td>
<td>251.00*</td>
</tr>
<tr>
<td><strong>Tenure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenure &lt;11</td>
<td>4</td>
<td>2574</td>
<td>0.355</td>
<td>0.420</td>
<td>0.161</td>
<td>0.322 to 0.390</td>
<td>7.14</td>
<td>0.104 to 0.736</td>
<td>56.02*</td>
</tr>
<tr>
<td>Tenure 11-14</td>
<td>4</td>
<td>2655</td>
<td>0.132</td>
<td>0.165</td>
<td>0.147</td>
<td>0.095 to 0.170</td>
<td>10.03</td>
<td>-0.123 to 0.452</td>
<td>39.87*</td>
</tr>
<tr>
<td>Tenure &gt;14</td>
<td>5</td>
<td>3837</td>
<td>0.096</td>
<td>0.1114</td>
<td>0.243</td>
<td>0.064 to 0.127</td>
<td>2.9</td>
<td>-0.363 to 0.590</td>
<td>168.65*</td>
</tr>
<tr>
<td><strong>Female Employee Percentage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;25%</td>
<td>6</td>
<td>5127</td>
<td>0.211</td>
<td>0.256</td>
<td>0.096</td>
<td>0.185 to 0.238</td>
<td>18.05</td>
<td>0.068 to 0.444</td>
<td>33.23*</td>
</tr>
<tr>
<td>25-50%</td>
<td>10</td>
<td>4512</td>
<td>0.261</td>
<td>0.318</td>
<td>0.101</td>
<td>0.233 to 0.288</td>
<td>8.8</td>
<td>-0.036 to 0.672</td>
<td>113.62*</td>
</tr>
<tr>
<td>&gt;50%</td>
<td>10</td>
<td>6227</td>
<td>0.132</td>
<td>0.163</td>
<td>0.197</td>
<td>0.107 to 0.156</td>
<td>6.03</td>
<td>-0.222 to 0.550</td>
<td>165.62*</td>
</tr>
</tbody>
</table>

*p<.05

Note. k= the number of studies; samples; N=the number of individuals in the k samples; $\bar{r}$= sample-size-weighted uncorrected correlation; $\rho$=mean true score correlation; $SD_\rho$=standard deviation of true score correlation; 95% confidence Interval=95% confidence interval for $\rho$; Var.expl.= percentage of variance in corrected correlations attributable to all the artifacts considered; Credibility Interval=95% credibility interval for $\rho$; Q-statistic=Chi-square test for moderators
Additional Analysis for Job Security Questionnaire Type Moderator Analyses for Relationship between Job Security and Job Satisfaction & Organizational Commitment

One of the most apparent differences among studies examining the relation between job security and work attitudes (i.e., job satisfaction and organizational commitment) may be in the questionnaires that have been used to assess employee perception of their job security (Schwinger et al. 2014, p. 746). There were differences in their operationalization of job security (or insecurity) in the studies included in this analysis. Thus, I hypothesized that choosing different job security (or insecurity) questionnaire can be responsible for dissimilar correlations between job security and work attitudes. Thus, I additionally analyzed whether job security questionnaire (measurement) type moderates the meta-analysis between job security and work attitudes (e.g., job satisfaction and organizational commitment). Results are presented in Table 7.

Table 7. Meta-Analytic Results of Job Security Questionnaire Type Moderator Analysis between job security and job satisfaction & organizational commitment

<table>
<thead>
<tr>
<th>Moderator</th>
<th>k</th>
<th>N</th>
<th>$\bar{r}$</th>
<th>p</th>
<th>95% Confidence interval</th>
<th>k</th>
<th>N</th>
<th>$\bar{r}$</th>
<th>p</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hellgren et al. (1999) Questionnaire</td>
<td>9</td>
<td>5097</td>
<td>0.181</td>
<td>0.219</td>
<td>0.1547 to 0.2081</td>
<td>2</td>
<td>552</td>
<td>0.225</td>
<td>0.293</td>
<td>0.1452 to 0.3039</td>
</tr>
<tr>
<td>De Witte (2000) Questionnaire</td>
<td>2</td>
<td>214</td>
<td>0.218</td>
<td>0.256</td>
<td>0.0904 to 0.3468</td>
<td>8</td>
<td>4406</td>
<td>0.236</td>
<td>0.299</td>
<td>0.2077 to 0.2636</td>
</tr>
<tr>
<td>Minnesota Satisfaction Questionnaire (1967)</td>
<td>3</td>
<td>2484</td>
<td>0.318</td>
<td>0.383</td>
<td>0.2828 to 0.3535</td>
<td>2</td>
<td>325</td>
<td>0.474</td>
<td>0.539</td>
<td>0.3896 to 0.5587</td>
</tr>
<tr>
<td>Caplan et al (1975) Questionnaire</td>
<td>2</td>
<td>803</td>
<td>0.439</td>
<td>0.568</td>
<td>0.3831 to 0.4949</td>
<td>2</td>
<td>803</td>
<td>0.359</td>
<td>0.477</td>
<td>0.2986 to 0.4193</td>
</tr>
<tr>
<td>Borg and Erizuruer (1999) Questionnaire</td>
<td>4</td>
<td>4318</td>
<td>0.202</td>
<td>0.232</td>
<td>0.1734 to 0.2303</td>
<td>4</td>
<td>4318</td>
<td>0.079</td>
<td>0.089</td>
<td>0.0491 to 0.1083</td>
</tr>
<tr>
<td>Mixed Questionnaire (Ashford et al 1989 &amp; De Witte 2000 Questionnaire)</td>
<td>7</td>
<td>4285</td>
<td>0.281</td>
<td>0.329</td>
<td>0.2533 to 0.3075</td>
<td>4</td>
<td>2459</td>
<td>0.416</td>
<td>0.498</td>
<td>0.380 to 0.4484</td>
</tr>
</tbody>
</table>

Note. k= the number of studies; samples; N=the number of individuals in the k samples; $\bar{r}$= sample-size-weighted uncorrected correlation; p=mean true score correlation; 95% confidence Interval=95% confidence interval for p.
Results show that all of the correlations between job security and work attitudes by different job security measurement (questionnaire) type were positive and significantly different from zero. Second, only Borg and Erizuher (1999) Job Security Questionnaire type obtained a significantly higher correlation (with true score correlations (\(\rho\)) of .568) with job satisfaction than did the other Job Security Questionnaire types. Third, Caplan et al (1975) Job Security Questionnaire type and Borg and Erizuher (1999) Job Security Questionnaire type obtained a significantly higher correlation (with true score correlations (\(\rho\)) of .539, .477, respectively) with the organizational commitment than did the other Job Security Questionnaire types. Thus, when I use Cohen’s (1988) framework, all these effect sizes are in the medium range of magnitude and most scales would yield very similar correlations with work attitudes except Caplan et al.’s (1975) and Borg and Erizuher’s (1999) scale. However, if some aspects of job security construct are more strongly represented by these two Job Security Questionnaire types (i.e., Borg and Erizuher (1990) Job Security Questionnaire and Caplan et al (1975) Job Security Questionnaire), it seems reasonable that the correlation between job security and work attitudes would be considerably higher when using these instruments. Thus, future researchers should consider the construct validity of the available questionnaires in order to gain a precise measure of job security (or insecurity) effects on work attitudes using additional meta-analysis.
Discussion and Conclusion

This article reports a quantitative summary of three decades of primary studies into direct relations between job security and job satisfaction and organizational commitment using robust meta-analysis procedures.

Taking an overall approach, it was found that the medium sized associations between job security and each work attitude variables (i.e., job satisfaction and organizational commitment) were found, with true score correlations ($\rho$) of .327 for job satisfaction, and .253 for organizational commitment. However, the presence of an inverted U-shaped relationship between job security and employee work attitudes is not in operation for the two work-attitude relationships examined at different levels of job security intensity. These results highlight the significance of job security at the workplace, in shaping and enhancing attitudes of employee. Job security is perhaps the sole reason why work culture and employee benefits are given so much importance. However, job security issues have different patterns in different situations, which future studies will show.

The present study aims at detecting stabilizing factors (moderators) of these overall relationships, by focusing on five important moderators--organizational type, employee nationality, age, tenure, and proportion of female.

I have analyzed the relationship between job security and work attitudes in both organizational type. Interestingly, there were different patterns for the organizational type moderator for both work behavior relationships, i.e., job satisfaction and organizational commitment. Specifically, there were higher associations in private organization for the job satisfaction (relative to public organization sample). It appears as if employees work in the private organization tend to have stronger reactions to job security. That is, they were more
likely to job satisfaction (compared to public organization workers). While the finding that
higher associations were obtained from public organization for the organizational commitment
(relative to private organization sample), this implies that workers in public organization may be
more sensitive to job security than employees in private organization, they were more likely to
organizational commitment. In addition, the findings underlie the presence of an inverted U-
shaped relationship between job security and employee work attitudes is not present for the two
work-attitude relationships examined at both private and public sectors. Instead, I found a
linearly positive relationship between job security and work attitudes (i.e., job satisfaction and
organizational commitment) at both sectors. It seems to suggest job security is a good thing that
we can’t get too much of at both private and public organization. The meta-analysis actually
show that both private and public employees might crave lesser amount of job insecurity (high
job security) even when jobs are, by rule, highly secure at public sector.

The findings that nationality of the employees included in the sample acted as moderators
are interesting. Differential findings were obtained for the organizational type moderator. First,
Non-Asia, Africa, and South America based employees have a greater dependence on the job
security variable for the relationship with job satisfaction. It means that Europe and North
America employees show higher associations to work attitudes concerning job security with
satisfaction factored in as compared to the Asia, Africa, and South America instances. Second, it
appears as if it appears as if employees not based in the United States tend to have stronger
reactions to job security for the relationship with organizational commitment. As predicted, for
the relationship job security and organizational commitment, higher associations were found for
Asia and Africa samples (relative to North America and Europe samples). This could be the
result of cultural differences in the whole conception and response towards the phenomenon of
job security. It stems from here albeit more thorough and extensive research is required to understand cultural and ethnic connotations from a differential point of view. It would appear that further work is needed to understand cultural factors in this association.

Interestingly, differential patterns were also found in terms of age, tenure and proportion of female workers moderators. The meta-analysis results show that age is highly related to the job security and employee work behavior, i.e., job satisfaction and organizational commitment. I had assumed that with older age, more cravings for job security would emerge. But this showed a divergent pattern in terms of employee age moderator for the relationship between job security and job satisfaction and organizational commitment. So rather than old, youth age employee will ring in more attention to job security, coupled with job satisfaction and organizational commitment. This correlation was more directly proportional for younger employees, putting forth the fact that older workers go by the responsibility of maintaining a relationship with organization, i.e., organizational commitment, in terms of a relatively inadequate job holding for short period (short tenure), hence they are less affected by job security and hence are less affected by job security (Allen and Meyer 1993; Löckenhoff and Carstensen 2004).

Contrary to my hypothesis, the meta-analysis results also show that differential patterns were found in terms of employee tenure moderators. It is expected that with long tenured employee has a more positive pattern with respect to job security and work attitudes (i.e., job satisfaction and organizational commitment), but this was not always so. It was moderately large for new employees (short tenure) and rapidly diminished with passage of time. I found that correlation between job security and organizational commitment was more positive for new employees and rapidly decline and level off with increasing time. This implies that this correlation was more positive for short level tenured employee group than for long tenured.
employee group. This positive moderation of tenure in the job security, job satisfaction and organizational commitment relations corroborate the expectation that employees with higher levels of tenure who oftentimes feel certain about their job security, will decrease their level of job satisfaction and commitment to the organization.

With respect to proportion of female workers, results confirm that proportion of female workers moderates the relationship between job security and job satisfaction and organizational commitment. However, contrary to my hypothesis, I found that the relationship between job security and work attitude variables (job satisfaction and organizational commitment) is more positive when female works comprise 25-50% of the workforce compared to less than at low (less than 25%) or high levels (more than 50%) of proportion of female workers. It shows that female workers occupy a median position in terms of the relationship between job security and job satisfaction and organizational commitment. Hence, these results shows that an inverted U-shaped curve reflects that job satisfaction and organizational commitment slows down at low or high proportions of female workers.

In this section, theoretical and practical implications of these findings for policy and for research will be discussed.

In this meta-analysis, I have considered three models of job security – work attitudes (i.e., job satisfaction and organizational commitment), relationship which will look into three patterns-positive, negative and curvilinear (inverted U-shaped). The results of current meta-analysis will be helpful for resolving the current theoretical debate concerning job security and work attitudes relationship (Byron et al. 2010). In sum, it has been found that there is a linearly positive relationship between job security and work attitudes (job satisfaction and organizational commitment). Hence, job security does increase employee job satisfaction and organizational
commitment, but this is a simplistic approach. Employee age and employee tenure are more compelling decisive factors. In these cases moderator analyses for the relationship between job security, job satisfaction and organizational commitment by employee age and tenure group revealed a diminishing pattern of linear relationship. Job satisfaction increases with youth (and short tenure) and the opposite is true for older workers (long tenure). The same is thought true for organizational commitment. My findings also have other broader theoretical implications. I found that job security increased organizational commitment for Asia, Middle East, South American, and Africa samples (relative to North American and Europe samples). This finding here suggests that cultural differences occupy a huge position to analyze these relationship patterns. Job security response and reaction varies widely from nation to nation and from ethnicity. Interpretations are quite multifarious. In addition, I found that organizational type (private sector vs. public sector) of the employees included in the sample acted as significant moderators. This findings shows that models of job security and work attitudes also incorporate different type of organization (sectoral difference) that account for how each type of organization (different sector) differentially interpret and react to their job security.

Practically, many organizations aim to increase employee work attitudes, and my findings indicate that possible organizational interventions such as at - will employment policy may decrease employee work attitudes and individual performance. My results suggest that policy makers seeking to increase employee work attitudes and behavior should ensure that their employees feel a sense of job security in their current job. Policy makers may increase job satisfaction and organizational commitment by enriching the emotive content of a job. Further, in the job security policy case, organizational decision makers may presume that a fully guaranteed tenure would maximize outcomes in terms of employee work attitude. However, the results point
out that those policy might lead to decreased instead of increased employee work attitudes. Thus, through this study, decision makers in organization limit the application of fully-guaranteed tenure policy based on understanding of the tenure and age moderator analysis, they may avoid such unexpected negative outcomes. Lastly, the results suggest that policy may consider selectively adding some moderator factors to the organizational environments, such as those moderate level of proportion of female workers, in order to improve their employee work attitudes.

Despite the strengths of this meta-analysis, some limitations call for attention. First, I could not apply a complete moderator analysis for job security questionnaire type under observation. Not all studies that used different job security questionnaire type could be included in the current moderator analysis. Future research should focus on the large number of different job security questionnaire type studies in the field. In addition, future research should consider the construct validity of the available questionnaires in order to gain a precise measure of job security (or insecurity) effects on work attitudes using additional meta-analysis. Thus, I advise future researchers to conduct meta-analytic investigations and to examine relevance of potential moderator variables (i.e., the type of job security measurement scale and construct validity of the available job security questionnaire) on the relation between job security and employee work attitudes and behavior. Second, as with other meta-analysis, there is a mismatching of different methods applied in the different studies undertaken (e.g. there exists considerable heterogeneity in how job security can be enhanced in terms of variables, factors and conditions). I advise control conditions and a detailed explanation as to how these are manipulated or applied in the future research. Third, industry range like health care and education were not included in current meta-analysis. Due to their human nature these sectors can produce far different effects than, say,
government. Here, too, research contributions are needed. Lastly, I could not apply a complete moderator analysis for job security intensity (degree) under observation. In the lower level of job security intensity, only minor or almost negligible samples were taken. This also illustrates the areas where sufficient research needs to be conducted. Future research will bring in more mediators and moderators to determine under what conditions and situations these variables can be applied.
Chapter 4 (Essay 2): Job Security Rule Changes and Employee Organizational Commitment: A Natural Experiment

In the recent past, a new generation of civil service reforms has been witnessed in both federal and state governments. At-will employment (AWE) systems are one of the most notable of these new reforms. AWE was first established in Georgia during the mid-1990s and later in Florida as well as some selected federal agencies (with the most notable being the Transportation Security Administration). As 2003 came to an end, the civilian employees in the Department of Defense (DOD) were removed from traditional civil service. This change has already been accomplished by other departments, such as the Department of Homeland Security (DHS), Federal Aviation Administration, and the Internal Revenue Service (Williams and Bowman 2007, p. 67). Recent reforms according to Coggburn et al. (2010, p. 190) involve restraining the employees’ procedural due process rights by limiting their access to mechanisms of presenting grievances and appeals or by completely removing those rights and making employment “at will.”

All of these new state and federal civil service reforms differ from traditional civil service in one crucial respect: they eliminated long-standing job security rules (i.e., traditional civil service job protections).

Tolbert and Zucker (1983) studied diffusion of civil service reform in U.S. local governments during the late nineteenth and early twentieth centuries. They concluded that “the adoption of a policy or program by an organization is importantly determined by the extent to which the measure is institutionalized whether by law or by gradual legitimation” (p. 22). Job security was clearly part of the package of civil service reforms that diffused widely in the U.S.,
within the federal government over time and across levels of government (Tolbert and Zucker, 1983; Ingraham, 2006).

By the 1970s, job security diffused almost universally throughout the U.S. public sector. Equally important, it was a practice that had persisted for almost a century in many jurisdictions. Job security for public employees had become institutionalized, that is, it had undergone “the process through which components of formal structure become widely accepted, as both appropriate and necessary, and serve to legitimate organizations” (Tolbert and Zucker, 1883, p. 25).

By contrast, the elimination of job security in the recent reforms in the DHS, as well as in Georgia and Florida, has been made employees become apprehensive of this new era.

Are we in a period of “deinstitutionalization” (Oliver, 1992) during which job security will cease being viewed as both appropriate and necessary, as undermining legitimacy of public organizations? If we are, then job security may be declining as a force to legitimate government organizations.

Recent developments, at least in the U.S., indicate that we are at the beginning of a process that reverses long-standing job security rules (Condrey and Battaglio, 2007). In 2007, Condrey and Battaglio observed that at-will employment practices have diffused significantly in the United States, tempered by the strength of public employee unions. Developments since 2007, especially concessions and loses by public employee unions, do not alter—and probably reinforce—Condrey and Battaglio’s conclusion.

If we are indeed at the early stages of lessening job security protections in government, then we have a two-pronged opportunity. Movement away from job security and toward another set of policies gives us an opportunity to study the deinstitutionalization process

51
itself. This is a unique opportunity to study an important social process, distinct from the substance of job security itself. The deinstitutionalization process also gives us an opportunity to study the consequences of different job security arrangements and their effects on employees and organizations. Research focusing specifically on consequences of different job security arrangements and their effects on employees is limited.

In this paper, I estimate the impact of different job security rule change on federal civilian employees’ affective organizational commitment through looking at recent U.S. Department of Homeland Security personnel system change. Shifting job security policy in U.S. Department of Homeland Security creates opportunities for naturally-occurring experiment that could significantly advance our understanding of the effects of job security.

The first section of this paper is a review of the literature that pertains to the practices of at-will employment and the new personnel management policy (MaxHR) in the DHS. Being one of the recent practices of at-will employment in the United States, MaxHR significantly contributes to the literature review of this study. The literature review section also covers job security theory and other pertinent studies. The literature review is followed by the methodology of the study by a summary of the key findings. In the last section, the results are discussed and recommendations for further research are given.


During the Bush administration, a lot of effort was made to eliminate the numerous union and civil service protections that civilian employees in the DHS had. Greeen et al. (2006, p. 306) asserts that similar reforms had been suggested for all federal government employees. The
particular reforms that were suggested according to Green et al. (2006, p.321) included acceleration of the procedures of employee dismissal, acceleration of the procedures hiring, and promotion by providing the line managers with more flexible options. Green et al. (2006, p. 306) explains that the assumed motivational attributes of at-will employment is that it gives the managers a great deal of flexibility and control over employees by giving them the discretion to hire or fire employees for any or no reason. In an at-will employment system, employees are denied the right to due process or appeal of an employment decision, while the employers are given the right to hire, promote, demote, transfer, or dismiss employees without having to justify themselves (Coggburn et al., 2010; Williams & Bowman, 2007).

A proposal for the formation of a new DHS was announced by the White House in June 2002. This led to the formation of the Public Law 107-296, i.e. the Homeland Security Act (which merged 22 Federal departments and agencies into a new DHS), which was signed by President George W. Bush on November 25, 2002 (Federal Register, 2004, p.8030; Brook & King, 2007, p. 401; Riccucci & Thompson, 2008, p.879; Kellough et al., 2010, p. 410; Homeland Security Website). MaxHR was created in 2002 after the DHS and the Director of the Office of Personnel Management were jointly given by Congress the authority to establish a new human resource management system (Federal Register, 2004, p.8030). DHS announced its plan to implement a new personnel system that covered all civilian employees who worked in the department, in the Federal Register on the 20th of February, 2004 (Federal Register, 2004, p.8061).

The provisions of the proposed regulations gave DHS the mandate to control employee processes such as basic remuneration, classification, labor relations, performance management, adverse actions (for example, disciplinary actions), and appeals (Federal Register, 2004, p.
DHS’s flexibility and accountability in regard to the payment, development, evaluation, and due process is elevated by the MaxHR personnel system (Federal Register, 2005, p. 5273, Brook and King, 2008, p. 402; Kellough et al., 2010, p. 410). The “management rights” of the DHS in the MaxHR personnel system were increased to enhance the DHS management flexibility in terms of deliberating about the employees’ adverse actions and labor relation issues, which means that collective bargaining is not a consideration when DHS is making a management decision (Federal Register 2004, p. 8034; Federal Register 2005, p. 5274). In the DHS’s new HRM system, the traditional human resources specialists were stripped of some of their responsibilities and these responsibilities were transferred to the high-level department managers (Federal Register 2004; Coggburn et al., 2010).

Coggburn et al. (2010, p. 190) explains that though the attribute of the new system that was given most of the attention was pay-for-performance, the system is also comprised of other attributes such as restraining the employees’ procedural due process rights by limiting their access to mechanisms of presenting grievances and appeals. The revisions and additions that were proposed in the current actions systems include the right to dismiss, suspend, demote, and reduce the payments to the employees (Federal Register 2004, p. 8044; Kellough et al., 2010, p. 412). In the new regulation, every employee is given an “initial service period” of one to two years after being appointed to DHS2. If the employee had previously worked in federal service, the period which he/she worked is accounted for in this requirement (Federal Register 2004, p. 8044; Kellough et al., 2010, p. 410). According to Kellough et al. (2010, p. 412). The extension of the probationary period has a huge impact because during this period the employees can be

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2 This probationary period was up to twice as long as the standard 1-year period required elsewhere in the federal service by the Code of Federal Regulations (Title 5, part 315, Subpart H, Section 315.801; Probation and Initial Appointment to a Competitive Position)
dismissed without prior warning or without regard to the procedural due process. Another proposal of the DHS was to reduce the period for given notice for adverse actions and to speed up the process of adjudication in cases that pertain to employee appeals. By doing so, DHS limits the employees’ right to due process and reduces the third parties’ (e.g., the board and arbitrators) authority to arbitrate adverse actions cases fully and without bias. However, collective bargaining was argued by labor organization to be imperative in the arbitration of adverse actions, and that the proposed regulations contradicted with statutory guarantees when they proposed removing adverse actions from the arbitral review. As a result, the proposed regulations were subjected to extensive revisions, especially on provisions that pertained to adverse actions. Upon these revisions, DHS published a plan of adopting a new personnel system on February 2005 in the Federal Register. There was a significant diffusion of the revised security rule in the DHS and this provoked immense opposition from unions of public employees. As a corollary, DHS made an announcement on February 2007 that it would cancel the new personnel system and that it would abandon any efforts to revise the labor relations

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3 Specifically, the proposed regulations allowed employees a 15 day minimum advance notice of a proposed adverse action and a 5-day reply period to respond to charges specified in the notice. Under existing law, the advance notice is 30 days and the reply period is 7 days.

4 Due process, the means by which a person can demand rationality and fairness by appealing a decision, is guaranteed in local, state, and federal government employment by virtue of the 14th Amendment.

5 The revised regulations allowed employees a 15-day minimum advance notice of a proposed adverse action and a 10-day period to respond to charges specified in the notice; it represents an increase over the 5-day reply period initially proposed, as well as the 7-day reply period provided in current law. (Federal Register 2005, p. 5281). “It reverted to accepting a “preponderance of evidence” as the standard for bringing action against an employee and it agreed to let employees file a grievance with arbitrators rather than the Merit System Protection Board (MSPB) if they worked in units where collective bargaining agreements established this right” (Riccucci and Thompson 2008, p. 882).
component that pertained to employee appeals collective bargaining by February 2008 (Riccucci & Thompson, 2009, p. 884).

**Job Security Theory and Research**

Although casual discourse usually takes the meaning of job security for granted, the scholarly literature reflects a variety of meanings. In the three decades since Greenhalgh and Rosenblatt’s (1984) seminal study to clarify job insecurity as a concept, for example, scholars have given significant attention to it rather than to job security.

Greenhalgh and Rosenblatt’s (1984) effort to clarify the theoretical understanding for job insecurity became a starting point for scholars to systematically understand and study job insecurity. In their article, Greenhalgh and Rosenblatt developed a theoretical model to understand the nature, causes, and consequences of job insecurity. They defined job insecurity as “powerlessness to maintain desired continuity in a threatened job situation”. The sense of powerlessness is suggested to be central of job insecurity (Greenhalgh and Rosenblatt, 1984; Ashford et al., 1989; Loi et al., 2011, 362). The general assumption underlying this definition is that job insecurity can be understood by an individual’s perceptions of the immediate work environment. Regarding the theoretical model for job insecurity, Greenhalgh and Rosenblatt argued that an individual’s subjective threat, as represented by job insecurity, is derived from objective threat as filtered through an individual’s perceptual processes. They argue that job insecurity, in turn, is projected to affect a variety of individual organizational behaviors such as productivity, turnover, and resistance to change. They also regard individual differences, such as
need for security, as a moderator variable in this model. Thus, Greenhalgh and Rosenblatt’s research can be interpreted that (subjective) perceived job insecurity may differ across individuals even if they are exposed to the same situation, but they also link an individual’s perceptions to the objective situation and perceived insecurity is projected to affect a variety of employee work attitudes and behaviors.

The review of research shows that research bifurcates the study of job security, with recent research focused on job insecurity as a subjective construct, in contrast to early research that treated the construct as both an objective feature of the situation and as a subjective individual need. Some studies investigate relationship between various antecedents (i.e., perceived lack of predictability and control, organizational changes, role ambiguity, and external locus of control) and job insecurity (Ashford et al., 1989; Roskies et al., 1990). Others focus on consequences of job insecurity. They investigate the relationship between job insecurity, burnout, organizational commitment, psychological well-being (i.e., psychological distress and life satisfaction), and health-related behaviors of workers (Bosman et al., 2005; Orpen,C, 1993; De Witte, 2005; Ferrie et al., 2002; Silla, 2009).

While business administration scholars have given more significant attention to job insecurity than to job security, the public administration literature focuses almost exclusively on job security to the exclusion of job insecurity. Romzek (1985) defined job security as a “legal employment contract between employee and agency that leads to assurances for continued employment” (Romzek 1985, p. 283). On the basis of Romzek’s job security definition, it is reasonable to understand that job security is a part of legal employment contract between employee and agency, thus job security can be regarded as a product of both contractual and institutional rules.
Although scholars emphasize job security’s role in the identity of public institutions and public debates about public performance and reform (Van Riper, 1958; Savas and Ginsburg, 1973), surprisingly little empirical research has been conducted on job security in the last three decades. Specifically, public administration scholars have only extensively examined motivational consequences of job security rules, as reflected in recent scholarship on at-will employment systems as mechanisms for motivating public employees (Battaglio, 2010; Kellough and Nigro, 2006).

As previously mentioned, there has been a legal shift been a from the traditional job-tenure to a new job security model in some states, such as Georgia, Florida, and Texas, as well as in some federal agencies such as the DHS and DOD (Coggburn, 2006; Selden, 2006; Perry, 2010). It is assumed that creation of at-will workforce is that it motivates poorly performing public employees by terminating people for cause – or for no reason at all (Coggburn, 2006; Kellough & Nigro, 2006; Battaglio, 2010). However, the literature that pertains to the consequences of job security rules, such as how it affects motivation, employee work effort, and performance, is unclear.

There are three studies that have delved into how workers in the in the state of Georgia have directly been affected by at-will employment schemes. Gossett (2003) explored the employees’ commitment and loyalty of employees in the Georgia Department of Juvenile Justice had been placed into effect four years after the 1996 Merit system Reform Act was established by comparing them with employees who were covered by civil service regulations. His hypothesis was that the removal of the employees’ protections of a merit system has a significant negative effect on their loyalty and commitment to the organization. On the contrary, the
findings of his study implied that the commitment and loyalty of employees was not significantly impinged on by the reforms.

Based on the 2000 survey of Georgia States of the at-will system, Kellough and Nigro (2006) conducted a study to investigate how the employees’ attitudes had been affected by the HR reforms. They found that the changes in the personnel policies were perceived negatively by the employees. As a result, they made a conclusion that there were doubts about the success of the reforms in developing personnel processes that were more effective or public employees that are more motivated.

Based on the 2005 Georgian survey of human resource professionals, Battaglio (2010) embarked on a study aimed at finding out how employment at-will (EAW) affected the motivation of public employees. The findings of this study implied that the EAW schemes have immense negative effects on the motivation of public workers. The conclusion made from his study was that the EAW was not meeting its objective of motivating the productivity employees through removal of their job security.

Based on the 2005 survey of the 122 human resource directors in Texas, Coggburn (2006) investigated the use and impact of the at-will doctrine on agencies. The findings of his investigation implied that though most HR directors affirm at-will employment improves the responsiveness of employees, it also generates pessimism in the perception of HR directors regarding therefore limiting its ability to facilitate better efficiency, motivation, and management flexibility.

The at-will reform in the Mississippi is also investigated by two studies. The perception and experiences of HR directors in the Mississippi state government’s at-will employment system is delved into by Goodman and Mann (2010). There was a general accord among the
respondents that at-will employment improves the responsiveness and performance of employees. On an interesting note, female HR directors as well as HR directors within the private sector however had negative perception regarding the at-will reform. Another study was conducted by Goodman and French (2011) to evaluate the attitudes of HR directors toward the augmented use of at-will employment and the employment dismissals that had been executed since its establishment. Based on the findings, the HR directors seemed optimistic about the increased use of at-will employment in the enhancement of productivity and efficiency of employees. However, their results raise doubt whether the at-will employment can truly enhance the responsiveness, effectiveness, and productivity of unclassified employees.

According to Kellough and Nigro (2006, p.464), the at-will-employment system was mainly subscribed based on the assumption that it would reduce poor performance and increase the motivation, productivity, and responsiveness of public employees. However, the studies that have been conducted to investigate the success of the at-will-employment system in achieving its intended objectives have failed to reach a consensus. Furthermore, despite the fact that a number of studies have reported cross-sectional, short-term impacts, hardly any study has delved into the how the attitudes or behaviors of employees have been effected by different changes in the job security rules by making a comparison of the treated units prior to and after treatment. In a bid to perform more meticulous analysis, this study drew its data from a large, multi-year data set in Department of Homeland Security as well as the Department of Energy.
Hypotheses

As Romzek (1985) notes, given that objective job security is a part of legal employment contract between employee and agency, objective job security can be regarded as a product of both contractual and institutional rules. The MaxHR personnel system that is espoused by DHS comprises different legal or institutional rule that govern property rights of jobs. It is also comprises a low level of objective job security. Job insecurity refers to subjective threats to and an employee’s employment status. The threat is usually derived from an employee’s perceptual process of an objective threat. As a result, Greenhalgh and Rosenblatt (1984) argues that job security is bound to affect the employees’ attitudes and behaviors that in turn affect their commitment, satisfaction, productivity, turnover, and resistance to change in their place of work.

According to Meyer and Allen (1991 p. 67), affective organizational commitment refers to the strength of an employee’s identification with a particular organization as well his level of involvement in that organization's activities. This study will use affective organizational commitment as a dependent variable because it usually influences the employees’ effort and performance. The correlation between organizational commitment and employees’ effort and performance is based on the assumption that commitment “supposedly” improves the employees’ input (Porter et al., 1974, p. 604; Mowday et al., 1982; Sager Marker 1989, p. 32). A positive correlation between affective organizational commitment and employees’ work behavior has also been established in numerous studies (for example, Chelte & Tausky, 1986; Sager & Johnston, 1989; Lee & Gao, 2005; Woo & Chellandurai, 2012). Gaining an acquaintance with the impacts of changes in job security rules helps in the comprehension of whether it improves the public employees’ motivations to become more productive.
Most of the studies that were conducted after Greenhalgh and Rosenblatt (1984) mainly considered (subjective) job insecurity and paid less attention how (objective) job security is impinged on by institutional rules. This explores how different legal or institutional rules that govern the property rights of jobs (i.e., objective job security) affect the affective organizational commitment of the civil servants who work in the DHS.

DHS announced its plan to implement a new personnel system, which covered all civilian employees who worked in the department, in the Federal Register on February 20, 2004. Greenhalgh and Rosenblatt (1984) argue that job insecurity refers to subjective threats to an employee’s employment status and explained that the subjective threat is usually derived from an employee’s perceptual process of an objective threat. Consequently, employees who work under the new system where their property rights of jobs are governed by different legal and/or institutional rules are more likely to have lower feelings of job security than the employees who work under the traditional system. Employees who are not assured of their job security are less likely to display affective organizational commitment.

**Hypothesis 1**: Department of Homeland Security’s 2004 new job security rule (introduction at-will policy) will negatively affect DHS civilian employee affective organizational commitment.

Upon revisions on the new employment system, DHS published a plan for adopting a new personnel system on February 2005 in the Federal Register (Federal Register, 2005, p.8061). The proposed regulations on procedures have been subjected to several revisions especially on the provisions of adverse actions (Federal Register 2005, p. 5281; Riccucci & Thompson, 2008, p. 882). Initially, the DHS’s proposal had advocated shortening the period of
giving notice to employees about adverse actions and speeding up the process of adjudication employees’ appeals. Upon revision, the reply period was increased and some of the third parties (e.g., the Merit System Protection Board and arbitrators) were given more authority in the arbitration of cases that pertain to adverse action\(^6\) (Federal Register 2005, p. 5281; Riccucci & Thompson, 2008, p. 882).

As a result, it is likely that workers under weakened legal or property rights of jobs will display weaker feelings of job insecurity than works on initially proposed job security rule (2004 Year rule) and it leads to increased affective organizational commitment by creating certainty about job security.

**Hypothesis 2**: Department of Homeland Security’s 2005 (relaxation at-will policy) job security rule will positively affect DHS civilian affective organizational commitment

DHS made an announcement on February 2007 that they would cancel the new personnel system and that they would abandon any efforts to revise the labor relations component that pertained to employee appeals collective bargaining by February of 2008 (Ricucci & Thompson, 2008, p. 884).

As a result, the proponent of this study hypothesizes that that workers under abolished legal or institutional rules governing the property rights of jobs will display weaker feelings of job insecurity than works on initially proposed legal or institutional rule (2004 Year Rule) and it

\(^6\) However, “DHS’s intent is to explicitly restrict the authority of MSPB to modify some penalties to situations where there is simply no justification for the penalty. Especially, in cases of multiple charges, MSPB or an arbitrator may mitigate a penalty where not all of the charges are sustained. The third party’s judgment is based on the justification for the penalty as it relates to the sustained charge(s)”. (Federal Register 2005, p. 5281)
leads to increased employee affective organizational commitment by creating certainty about job
security.

**Hypothesis 3**: Department of Homeland Security’s rescinding of its job security rule reforms will positively affect DHS civilian employee affective organizational commitment.

**Methods**

In this section, the methods of data collection and analysis of how changes in the rules of job security affect the affective organizational commitment of employees are discussed. The section begins with a discussion of the databases that were used when testing the hypotheses.

According to the DHS official website, the creation of DHS entailed the merging of 22 federal departments and agencies. This study analyzes the U.S. Citizenship and Immigration Services (U.S. C&IS.) as a proxy for the DHS. The analysis of the agency is generalized as the analysis of the entire DHS.

**Data and Measure**

The Human Capital Surveys (FHCS) of 2002, 2004, 2006, and 2008, which were carried out by the OPM are the databases upon which the data used in this study is drawn. FHCS is a repeated cross-sectional dataset that was initiated in 2002, and then others followed in 2004,
2006, 2008, 2010, 2011, and 2012. Yang and Kassekert (2009) argue that in a study like this, optimal results would be achieved by delving into every dataset in the panel data form. However, repeated cross-sectional datasets, according to Abaedie (2005) and Wooldridge (2008), are useful in the construction of Difference-in-Differences estimators. The FHCS assesses the satisfaction and commitment of employee in an organization in terms of work environment, leadership, professional development, rewards, and recognition.

The fiscal year (FY) 2004 was the year when the new job security reforms were established and published in the Federal Register. As a result, the respondents who were studied by the FHCS in 2002 are considered as “before” because it was the period prior to the establishment of the new job security rule. Those who were studied by the FHCS in 2004 are considered as the “after” because it was the period when proposed new job security rule took effect. Consequently, this particular analysis is concerned with FHCS’s data from 2002 and 2004.

The study is also concerned with FY 2005, which is the period of the weakened new job security rule. During this period, the job security rule was subjected to several revisions that then were published in the Federal Register. As a result, the respondents who were studied by the FHCS in 2004 are considered as “before” because it was the period prior to the modification of the job security rule. Those who were studied by the FHCS in 2006 are considered as the “after” because it was the period when the revised job security rule took effect. Consequently, this particular analysis is concerned with FHCS’s data from 2004 and 2006. In FY 2008, the weakened/revised proposed job security rule ceased to take effect after DHS announced in February 2007 that the proposed job security rule would be terminated in the following year. As a result, the respondents who were studied by the FHCS in 2004 are considered as “before”
because they are the people who were impinged upon by the initial job security rule. Those who were studied by the FHCS in 2008 are considered as the “after” because they are the people who were impinged upon by the annulment of the proposed job security rule. Consequently, this particular analysis is concerned with FHCS’s data between 2004 and 2008.
Dependent Variable

The survey questions that were used in this study’s analysis are tabulated in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Question Number-FHCS</th>
<th>Variable Name</th>
<th>Actual Question and Response Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q13 Q8 Q8 Q8</td>
<td>Affective Organizational Commitment</td>
<td>I recommend my organization as a good place to work (5 Strongly Agree, 4 Agree, 3 Neither Agree nor Disagree 2 Disagree 1 Strongly Disagree)</td>
</tr>
<tr>
<td>Q56 Q6 Q5 Q5</td>
<td>Affective Organizational Commitment</td>
<td>My work gives me a feeling of personal accomplishment (5 Strongly Agree, 4 Agree, 3 Neither Agree nor Disagree 2 Disagree 1 Strongly Disagree)</td>
</tr>
<tr>
<td>Q57 Q7 Q6 Q6</td>
<td>Affective Organizational Commitment</td>
<td>I like the kind of work I do (5 Strongly Agree, 4 Agree, 3 Neither Agree nor Disagree 2 Disagree 1 Strongly Disagree)</td>
</tr>
<tr>
<td>Q16 Q23 Q22 Q22</td>
<td>Promotion Opportunity</td>
<td>Selection for promotion in my work unit are based on merit (5 Strongly Agree 2 Agree 3 Neither Agree nor Disagree 2 Disagree 1 Strongly Disagree 0 Do not know)</td>
</tr>
<tr>
<td>Q17 Q14 Q13 Q13</td>
<td>Supportive or Considerate Leadership</td>
<td>Supervisors/team leaders in my work unit provide employees with the opportunities to demonstrate their leadership skills (5 Strongly Agree 2 Agree 3 Neither Agree nor Disagree 2 Disagree 1 Strongly Disagree 0 Do not know)</td>
</tr>
<tr>
<td>Q25 Q46 Q43 Q44</td>
<td>Perception of Organizational Justice1</td>
<td>Complaints, disputes or grievances are resolved fairly in my work unit (5 Strongly Agree 2 Agree 3 Neither Agree nor Disagree 2 Disagree 1 Strongly Disagree 0 Do not know)</td>
</tr>
<tr>
<td>Q26 Q47 Q44 Q45</td>
<td>Perception of Organizational Justice2</td>
<td>Arbitrary action, personal favoritism and coercion for partisan political purposes are not tolerated (5 Strongly Agree 2 Agree 3 Neither Agree nor Disagree 2 Disagree 1 Strongly Disagree 0 Do not know)</td>
</tr>
<tr>
<td>Q45 Q52 Q49 Q50</td>
<td>Training and Mentoring</td>
<td>Employees have electronic access to learning and training programs readily available at their desk (5 Strongly Agree 2 Agree 3 Neither Agree nor Disagree 2 Disagree 1 Strongly Disagree 0 Do not know)</td>
</tr>
<tr>
<td>GENDER DSEX DSEX DSEX</td>
<td>Gender</td>
<td>Are you (A: Male  B: Female)</td>
</tr>
<tr>
<td>MINORITY DRNO DRNO DRNO</td>
<td>Race</td>
<td>Are you (A: American Indiana or Alaska Native B: Asian C: Black or African American D: Native Hawaiian or Other Pacific Islander E: White F: Two or more races (Not Hispanic or Latino)</td>
</tr>
<tr>
<td>SUSATUS DSUPER DSUPER DRNO</td>
<td>Supervisory Status</td>
<td>What is your supervisory status? (A: Non-Supervisor B: Team Leader C: Supervisor D: Manager E:Executive)</td>
</tr>
</tbody>
</table>
The commitment of an employee to an organization, according to Meyer and Allen (1991, p. 67), can take three forms: (a) affective commitment: this entails being emotionally attached to, identifying with, and engaging in the organization’s activities; (b) continuance commitment: refers to being acquainted with the detriments that accrue to the employee in case they leave the organization; (c) normative commitment: refers to feeling of obligation to continue employment. Affective organizational commitment among employees is used as this study’s one dependent variable because it usually influences the employees’ effort and performance. The correlation between organizational commitment and employees’ effort and performance is based on the assumption that commitment “supposedly” improves the employees’ input (Porter et al., 1974, p. 604; Mowday et al., 1982; Sager Marker 1989, p. 32). A positive correlation between affective organizational commitment and employees’ work behavior has also been established in numerous studies (for example, Chelte & Tausky, 1986; Sager & Johnston, 1989; Lee & Gao, 2005; Woo & Chellandurai, 2012). In order to evaluate the employees’ affective organizational commitment, their pride of being members of the organization during the FHCS of 2002, 2004, 2006, and 2008 was investigated. Affective commitment was measured with three items adapted from the affective organizational commitment scale suggested by Moldogaziev and Silvia (2014). Each item had a five point response format (1= strongly disagree to 5= strongly agree). The chosen items were “I recommend my organization as a good place to work”; “My work gives me a feeling of personal accomplishment”; and “I like the kind of work I do”. As developed by Moldogaziev and Silvia

7 In the original model, I used one item concerning pride in organizational membership from the Federal Human Capital Survey 2002, 2004, 2006, and 2008 to assess affective organizational commitment. The chosen item was “I recommended my organization as a good place to work,” which had a five point response format (1=strongly disagree to 5=strongly agree). The 3-item scale yields results very similar to the single item in the analyses.
The three survey questions were converted to a dichotomous variable for which positive responses (agree and strongly agree) were coded “1” and non-positive responses (neither agree nor disagree, disagree, and strongly disagree) were coded ‘0’ (Moldogaziev and Silvia 2014, p. 6). The scores for each of the three dichotomized variables were then summed in order to create the measure of affective commitment to the organization, which therefore has a range of 0 to 3 (Moldogazieve and Silvia 2014, p. 6). The results of Cronbach’s alpha tests show moderate levels of internal consistency, with scale reliability statistics ranging from 0.64 to 0.72 for the addictive measure of affective organizational commitment variable by survey year (Table 2).

Table 2
Cronbach alpha & Addictive Index Mean for 3-items Affective Organizational Commitment Dependent Variable by Survey Year

<table>
<thead>
<tr>
<th>Survey Year</th>
<th>Cronbach alpha</th>
<th>Addictive Index Mean (Range: Min:0-Max:3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHCS 2002</td>
<td>0.707</td>
<td>2.191</td>
</tr>
<tr>
<td>FHCS 2004</td>
<td>0.726</td>
<td>2.219</td>
</tr>
<tr>
<td>FHCS 2006</td>
<td>0.649</td>
<td>2.234</td>
</tr>
<tr>
<td>FHCS 2008</td>
<td>0.647</td>
<td>2.235</td>
</tr>
</tbody>
</table>

Control Variables

In a bid to deal with the confounding effects on the affective commitment of employees to an organization that arise from consistency of results in different surveys, this study delved into eight different control variables. This empirical test design will be use useful in explaining the differences in affective organizational commitment that have been reported among federal employees. The current model has numerous control variables to deal with any confounding effects on affective organizational commitment that may arise. In previous studies, positive
correlations were found between affective organizational commitment and supportive leadership, promotion opportunities, perception of organizational justice, and training and mentoring (Landau & Hammer, 1986; Gaertner & Nollen, 1989; McFarlin & Sweeney, 1992; Sweeney & McFarlin, 1993; Dunham et al., 1994; Tang & Sarsfield-Baldwin, 1996; Scandura, 1997). The researcher therefore reckons that it is possible to control those variables to deal with this study’s confounding effects on affective organizational commitment. In addition, the model includes a set of controls for characteristics of the survey respondent, including a dummy variable for whether or not the respondent is male (gender), a dummy variable for whether or not the respondent is nonwhite (minority), and a dummy variable for whether or not the respondent has a supervisory position (supervisory status). Thus, I control for those variables to deal with confounding effects on affective organizational commitment in this study.

### Table 3
Sample Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Organizational Commitment</td>
<td>1.94 (1.07)</td>
<td>2.18 (1.09)</td>
<td>2.20 (1.02)</td>
<td>2.41 (0.96)</td>
</tr>
<tr>
<td>Promotion Opportunity</td>
<td>2.66 (1.34)</td>
<td>3.38 (1.29)</td>
<td>3.00 (1.20)</td>
<td>3.31 (1.20)</td>
</tr>
<tr>
<td>Supportive or Considerate Leadership</td>
<td>3.31 (1.12)</td>
<td>3.71 (1.00)</td>
<td>3.56 (1.08)</td>
<td>3.82 (0.99)</td>
</tr>
<tr>
<td>Perception of Organizational Justice 1</td>
<td>3.14 (1.21)</td>
<td>3.52 (1.06)</td>
<td>3.35 (1.13)</td>
<td>3.55 (1.05)</td>
</tr>
<tr>
<td>Perception of Organizational Justice 2</td>
<td>3.07 (1.32)</td>
<td>3.48 (1.21)</td>
<td>3.40 (1.19)</td>
<td>3.66 (1.15)</td>
</tr>
<tr>
<td>Training and Mentoring</td>
<td>2.90 (1.22)</td>
<td>4.01 (0.88)</td>
<td>3.73 (0.99)</td>
<td>4.02 (0.89)</td>
</tr>
<tr>
<td>Gender</td>
<td>1.25 (0.43)</td>
<td>1.30 (0.45)</td>
<td>1.58 (0.49)</td>
<td>1.31 (0.46)</td>
</tr>
<tr>
<td>Race</td>
<td>1.41 (0.49)</td>
<td>1.15 (0.36)</td>
<td>1.4 (0.49)</td>
<td>1.14 (0.35)</td>
</tr>
<tr>
<td>Supervisory Status</td>
<td>1.66 (0.53)</td>
<td>1.77 (0.75)</td>
<td>1.47 (0.49)</td>
<td>1.59 (0.70)</td>
</tr>
<tr>
<td>N</td>
<td>671 (0.53)</td>
<td>802 (0.75)</td>
<td>655 (0.49)</td>
<td>1291 (0.70)</td>
</tr>
</tbody>
</table>

Note: Standard deviations are in parentheses
The analytic approach espoused in this study is straightforward. The effect of job security rule changes on the affective organizational commitment among the employees in the DHS is examined using the difference-in-differences (DID) methodology. The researcher delves into the changes in the rate of affective organizational commitment rates among the employees in the DHS over time to explore the discontinuities that were witnessed when the new job security rules were introduced and when they were abolished.

The DID methodology is used in the statistical comparison of a treatment and control group prior to and after an intervention. The interventions in this study are the establishment and cancellation of the new job security rule. The comparisons in this study therefore pertain to the impact of the establishment and cancellation of the new job security rule on the affective organizational commitment of the federal employees that are obtained by subtracting the difference in observed mean of affective commitment to the organization (outcome variable) between the treatment group and comparison group before and after the intervention. It is imperative to have a comparison group when netting out the secular trends in the satisfaction of a job. DID designs are usually faced with a challenge of identifying a plausible comparison group that was not impinged on by the intervention being studied. Identifying a comparison group in this study is particularly hard. As previously mentioned, the signing of the policy into law was done on November 25, 2002, while details implementing the new job security rule were done in FY 2004. The most ideal comparison group in this study is another U.S. federal agency. For a federal agency to be considered as a comparison group, it would share the following attributes with the DHS’s U.S. C&IS: (a) have a policy of traditional job-tenure and merit system that has
existed for a long time, (b) have similar mean outcomes prior to the establishment of the new job security rule, and (c) have similar background attributes. In a bid to identify the most appropriate comparison group, the researcher looked into the distribution of affective organizational commitment (outcome variable) as well as the background attributes of all federal agencies and departments in 2002. This strategy is associated with a long tradition in policy research (Shadish et al., 2002; Hvidman & Andersen, 2013). After looking into different federal agencies and departments, the researcher found that the distribution of affective organizational commitment as well as background attributes U.S. Department of Energy in 2002 were similar to those of the DHS. In addition, the department’s policy of job–tenure and merit system had existed for a long time. It was therefore decided that the Department of Energy was the most appropriate comparison group for this study.

For the pre (2002)-and post (2004)-test of the agency similarities, the researcher specifically made a comparison of the affected and non-affected agencies using key background variables. The matching test results for the control variables are presented in Table 3. All the entries in the table symbolize estimates of bivariate regression of control variables on the affected status (the code 1 is given to U.S. C&IS in 2002 and 2004 while the code 0 is given to U.S. Department of Energy in 2002, 2004). As illustrated in table 4, the U.S. Department of Energy, which is non-affected agency, has very similar characteristics with the affected agency i.e., U.S. C&IS. The affected and non-affected agencies also had some significant differences pre-test, which include: promotion opportunities, mentoring and training, and race. The differences in the post-test include mentoring and training and gender, as well as race. The researcher was unable to rule out the possibility of dissimilarity in the affected and non-affected agencies based on unobserved characteristics that could impinge on their implementation of new
job security rule as well as the affective organizational commitment among their employees.

However, based on the similarity in the wide-ranging observable background characteristics, an assumption was made that the background attributes of the employees in the U.S. C&IS (which is one of DHS’s sub-agencies) and Department of Energy did not have any significant changes prior to and after the change in policy.

Table 4
Background Variables: Balancing Test for Pre-(2002) and Post-(2004)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-Affected agency mean</td>
<td>Affected-Non-Affected agency difference</td>
</tr>
<tr>
<td>Promotion Opportunity</td>
<td>3.05</td>
<td>-0.043**</td>
</tr>
<tr>
<td></td>
<td>(0.012)</td>
<td></td>
</tr>
<tr>
<td>Supportive or Considerate Leadership</td>
<td>3.53</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td></td>
</tr>
<tr>
<td>Perception of Organizational Justice 1</td>
<td>2.35</td>
<td>0.025</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td></td>
</tr>
<tr>
<td>Perception of Organizational Justice 2</td>
<td>3.29</td>
<td>0.009</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td></td>
</tr>
<tr>
<td>Training and Mentoring</td>
<td>3.50</td>
<td>-0.173*</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1.27</td>
<td>-0.04</td>
</tr>
<tr>
<td></td>
<td>(0.025)</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>1.27</td>
<td>0.249**</td>
</tr>
<tr>
<td></td>
<td>(0.025)</td>
<td></td>
</tr>
<tr>
<td>Supervisory Status</td>
<td>1.72</td>
<td>-0.004</td>
</tr>
<tr>
<td></td>
<td>(0.025)</td>
<td></td>
</tr>
</tbody>
</table>

N

<table>
<thead>
<tr>
<th></th>
<th>Affected Agency</th>
<th>Non Affected Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affected Agency</td>
<td>671</td>
<td>655</td>
</tr>
<tr>
<td>Non Affected Agency</td>
<td>802</td>
<td>1291</td>
</tr>
</tbody>
</table>

Additionally for the pre (2004)-and post (2006)-test of the agency similarities, the researcher specifically made a comparison of the affected and non-affected agencies using key background variables. The matching test results for the control variables are presented in Table 5. All the entries in the table symbolize estimates of bivariate regression of control variables on the affected status (the code 1 is given to U.S. C&IS in 2004, 2006 while the code 0 is given to U.S. Department of Energy in 2004, 2006). As illustrated in table 4, the U.S. Department of Energy, which is non-affected agency, has very similar characteristics with the affected agency i.e., U.S. C&IS. The affected and non-affected agencies also had some significant differences pre-test, which include: training and mentoring, gender, and race in post-test. However, the researcher was unable to rule out the possibility of dissimilarity in the affected and non-affected agencies based on unobserved characteristics that could impinge on their implementation of new job security rule as well as the affective organizational commitment among their employees. However, based on the similarity in the wide-ranging observable background characteristics, an assumption was made that the background attributes of the employees in the U.S. C&IS (which is one of DHS’s sub-agencies) and Department of Energy did not have any significant changes prior to and after the change in policy.
In addition, for the pre (2004)-and post (2008)-test of the agency similarities, the researcher specifically made a comparison of the affected and non-affected agencies using key background variables. The matching test results for the control variables are presented in Table 6. All the entries in the table symbolize estimates of bivariate regression of control variables on the affected status (the code 1 is given to U.S. C&IS in 2004, 2008 while the code 0 is given to U.S. Department of Energy in 2004, 2008). As illustrated in table 5, the U.S. Department of Energy, which is non-affected agency, has very similar characteristics with the affected agency.
i.e., U.S. C&IS. The affected and non-affected agencies also had some significant differences pre-test, which include: gender, race and supervisory status in post-test. However, the researcher was unable to rule out the possibility of dissimilarity in the affected and non-affected agencies based on unobserved characteristics that could impinge on their implementation of new job security rule as well as the affective organizational commitment among their employees.

However, based on the similarity in the wide-ranging observable background characteristics, an assumption was made that the background attributes of the employees in the U.S. C&IS (which is one of DHS’s sub-agencies) and Department of Energy did not have any significant changes prior to and after the change in policy.
### Table 6
Background Variables: Balancing Test for Pre-(2004) and Post-(2008)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion Opportunity</td>
<td>3.21</td>
<td>-0.022 (0.011)</td>
<td>2.94</td>
<td>-0.008 (0.006)</td>
</tr>
<tr>
<td>Supportive or Considerate</td>
<td>3.73</td>
<td>-0.019 (0.012)</td>
<td>3.56</td>
<td>0.002 (0.007)</td>
</tr>
<tr>
<td>Leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception of Organizational</td>
<td>3.14</td>
<td>0.024 (0.014)</td>
<td>3.21</td>
<td>0.012 (0.008)</td>
</tr>
<tr>
<td>Justice 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception of Organizational</td>
<td>3.57</td>
<td>0.0006 (0.012)</td>
<td>3.37</td>
<td>-0.012 (0.006)</td>
</tr>
<tr>
<td>Justice 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training and Mentoring</td>
<td>3.92</td>
<td>-0.061** (0.012)</td>
<td>4.04</td>
<td>0.004 (0.008)</td>
</tr>
<tr>
<td>Gender</td>
<td>1.40</td>
<td>0.207* (0.020)</td>
<td>1.27</td>
<td>0.073** (0.012)</td>
</tr>
<tr>
<td>Race</td>
<td>1.23</td>
<td>0.253* (0.024)</td>
<td>1.03</td>
<td>-0.081* (0.031)</td>
</tr>
<tr>
<td>Supervisory Status</td>
<td>1.55</td>
<td>-0.014 (0.016)</td>
<td>1.11</td>
<td>0.152** (0.017)</td>
</tr>
</tbody>
</table>

N

Affected Agency 655 90

Non Affected Agency 1291 1429


This model’s basic assumption is that the treatment group, i.e., the affected agency, and comparison group, i.e., the non-affected agency, would have had similar trends if the intervention was not implemented. Regardless of the fact that it is not possible statistically to verify the validity of the model’s basic assumption, the resemblance of the background attributes of the affected and non-affected agency’s employees (in addition to moderately similar mean outcomes of both agencies prior to the establishment of the new job security rule) can be used evidence of the small probability of selection bias.
Model and Estimation Strategy

1) The Effect of New Job Security Rule on Employee Affective Organizational Commitment

The evaluation of the effects of the new job security rules in this study entails a comparison between the employees’ affective organizational commitment prior to and after establishment of the new job security rules in the U.S. C&IS and the Department of Energy is provided. It is possible to make the calculation using ordinary least squares. Based on the DID design, the following model is used for estimation:

\[ y_i = \alpha_1 + \beta_1 (DepartmentofHomelandSecurity_i \times After_i) + \delta_1 DepartmentofHomelandSecurity_i + \theta_4 After_i + \chi_i + \tau_{i1} \]

In this model, the dependent variable is an additive measure of employees’ affective commitment to the organization. The binary measure \( DepartmentofHomelandSecurity_i \) set to one when referring to employee in the U.S. C&IS. The binary measure \( After_i \) is set to one when referring the period after the establishment of the new job security rule (i.e., 2003 onward). In this study’s analysis, I make the assumption that the era of new job security rule commenced on February in FY 2004 because this was the time when full cognitive impact of the new rule was experienced after being published in the Federal Register. As a result, the respondents who were studied by the FHCS in 2002 are considered as “before” because they were not impinged on by new job security rule. Those who were studied by the FHCS in 2004 are considered as the “after” because it was the period when proposed new job security rule took effect. Consequently, a value of 1 is given to this variable takes for the 2004 survey. This specification controls the affective
organizational commitment’s time trend \( (\theta_1) \), as well as the average effect an U.S. C&IS employees’ affective organizational commitment \( (\delta_1) \). The new job security practices’ reduced-form effect is represented by \( \beta_1 \). In addition, \( \chi_i \) is the control variables and \( \tau_{i1} \) is the usual error term of the regression with variance \( \sigma^2 \).

The model used to determine the impact of the establishment of new job security rules (difference-in-differences estimate \( \beta_1 \)) is as follows:

\[
\beta_1 = (\text{OrgCommit}_{DHS,After} - \text{OrgCommit}_{DHS,Before})
- (\text{OrgCommit}_{DOE,After} - \text{OrgCommit}_{DOE,Before})
\]

The DID design is based on the assumption that if the intervention (which, in this case, is the change in the job security rule) was not implemented, the affected and non-affected agencies would have a similar average change. Regardless of the fact that the researcher could not test this assumption, the resemblance of the background attributes of the affected and non-affected agency’s employees (in addition to moderately similar mean outcomes of both agencies prior to the establishment of the new job security rule) can be used as evidence of the small probability of selection bias.

2) The Effect of Modified New Job Security Rule on Employee Affective Organizational Commitment

The evaluation of the effects of modified job security rule changes in this study entails a comparison between the employees’ affective organizational commitment prior to and after
establishment of the new job security rules in the U.S. C&IS and the Department of Energy is provided. It is possible to make the calculation using ordinary least squares. Based on the DID design, the following model is used for estimation:

\[ y_i = \rho_1 + \eta_1 (DepartmentofHomelandSecurity_i \ast After_i) \]
\[ + \varphi_1 DepartmentofHomelandSecurity_i + \xi_1 After_i + \chi_i + \epsilon_{i1} \]

In this model, the dependent variable is an additive measure of employees’ affective commitment to the organization. The binary measure \( DepartmentofHomelandSecurity_i \) set to one when referring to employee in the U.S. C&IS. The binary measure \( After_i \) is set to one when referring the period after the modification of the new job security rule (i.e., 2005 onward). In this study’s analysis, I make the assumption that the era of modified job security rule commenced on February of FY 2005 because this was the time when full cognitive impact of the modified rule was experienced after being published in the *Federal Register*. As a result, the respondents who were studied by the FHCS in 2004 are considered as “before” because they were not impinged on by new job security rule. Those who were studied by the FHCS in 2006 are considered as the “after” because it was the period when modified new job security rule took effect. Consequently, a value of 1 is given to this variable takes for the 2004 survey. This specification controls the affective organizational commitment’s time trend (\( \xi_1 \)) as well as the average effect an U.S. C&IS employee’s affective organizational commitment (\( \varphi_1 \)). The new job security practices’ reduced-form effect is represented by \( \eta_1 \). In addition, \( \chi_i \) is the control variables and {\( \epsilon_{i1} \)} is the usual error term of the regression with variance \( \sigma^2 \).
3) The Effect of End of Proposed New Job Security Rule on Affective Organizational Commitment

The evaluation of the effects of the cancellation of the job security rule in this study entails a comparison between the employees’ organizational commitment prior to and after establishment of the new job security rules in the U.S. C&IS and the Department of Energy is provided. It is possible to make the calculation using ordinary least squares. Based on the DID design, the following model is used for estimation:

\[ y_i = \theta_1 + \tau_1(DepartmentofHomelandSecurity_i * After_i) + \nu_1 DepartmentofHomelandSecurity_i + \zeta_1 After_i + \chi_i + \omega_{i1} \]

In this model, the dependent variable is an addictive measure of employees’ affective commitment to the organization. The binary measure \( DepartmentofHomelandSecurity_i \) set to one when referring to employee in the U.S. C&IS. The binary measure \( After_i \) is set to one when referring the period after the cancellation of the new job security rule (i.e., 2005-2007 onward). In this study’s analysis, I make the assumption that the era of modified job security rule commenced in FY 2008 because this was the time when full cognitive impact of the cancellation of the rule was experienced. As a result, the respondents who were studied by the FHCS in 2004 are considered as “before” because they were not impinged on by new job security rule. Those who were studied by the FHCS in 2008 are considered as the “after” because it was the period when the rule was abolished. Consequently, a value of 1 is given to this variable takes for the 2008 survey. This specification controls the affective organizational commitment’s time trend (\( \zeta_1 \)) as well as the average effect an U.S. C&IS employee’s affective organizational commitment
The new job security practices’ reduced-form effect is represented by $\tau_1$. In addition, $\chi_i$ is the control variables and $\omega_{i1}$ is the usual error term of the regression with variance $\sigma^2$.

Ordinary least squares are used in the conduct of all the estimations. Adjustments in the standard errors are undertaken for heteroskedasticity as a result of the dependent variable. Standard errors are also adjusted for correlation within agency and year.

Results

The results of this study are presented in three parts. In the first part, the DID estimates for the effects of the new job security rule on the affective commitment of employees to an organization are presented. In the second part, the DID estimates for the effects of the modified/revised job security rule on the affective commitment of employees to an organization are presented. In the last part, the DID estimates for the effects of the cancellation of the job security rule on the commitment of employees to an organization are presented.

The results of the effect of the 2004 DHS’s new job security rule on the commitment of employees to an organization are presented in Table 6. The results of displayed in this table are drawn from pooled cross-section over time data.

Table 7’s first column (model 1) is an illustration of the estimation of the effects of the 2004 DHS’s new job security rule devoid of control variables. Using the “adopter/non-adopter difference” (coefficient of term After x DHS) a comparison between the mean difference of the 2004 FHCS and 2002 FHCS of the adopter (U.S. C&IS) and the non-adopter (U.S. Department of Energy). An insignificant estimate is obtained, which implies that the employees’ affective
organizational commitment in the U.S. C&IS did not augment or decrease after introduction of the new job security rule by the DHS between 2002 and 2004.

In Table 7’s second column (model 2) a full set of the control variables is introduced. A significantly negative (p=.012) estimate is obtained when the difference in the effects of the 2004 new job security rule on affective organizational commitment in the DHS is considered. The implication of these results is that DHS’s 2004 new job security rule affects the affective commitment of employees to the organization by 16 percentage points. In accordance with H1, the new job security rule that was adopted by the DHS in 2004 is found negatively to have affected the organizational commitment of the civilian employees. On an individual level, the control variables in model 2 are highly significant in the expected direction. The results in the time dummy variable (i.e., the coefficient of term After) imply that the agency that did not affected by 2004 new job security rule on average experienced a slightly positive trend in affective organizational commitment between 2002 and 2004.

Table 7
Comparison Group: Employees in Department of Energy

<table>
<thead>
<tr>
<th></th>
<th>Full Sample, Model 1</th>
<th>Full Sample, Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>After x Department of Homeland Security</td>
<td>0.036</td>
<td>-0.161*</td>
</tr>
<tr>
<td></td>
<td>(0.072)</td>
<td>(0.064)</td>
</tr>
<tr>
<td>Department of Homeland Security</td>
<td>-0.238**</td>
<td>0.083</td>
</tr>
<tr>
<td></td>
<td>(0.053)</td>
<td>(0.050)</td>
</tr>
<tr>
<td>After(2004)</td>
<td>0.233**</td>
<td>0.170**</td>
</tr>
<tr>
<td></td>
<td>(0.046)</td>
<td>(0.038)</td>
</tr>
<tr>
<td>Promotion Opportunity</td>
<td>0.142**</td>
<td>(0.017)</td>
</tr>
<tr>
<td>Supportive or Considerate Leadership</td>
<td>0.244**</td>
<td>(0.020)</td>
</tr>
<tr>
<td>Perception of Organizational Justice 1</td>
<td>0.123**</td>
<td>(0.021)</td>
</tr>
</tbody>
</table>

84
The results of the effect of the 2005 DHS’s revised/modified job security rule on the affective commitment of employees to an organization are presented in Table 7.

Table 8’s first column (model 3) is an illustration of the estimation of the effects of the 2005 DHS’s revised job security rule devoid of control variables. Using the “adopter/non-adopter difference” (coefficient of term After x DHS) a comparison between the mean difference of the 2006 FHCS and 2004 FHCS of the adopter (U.S. C&IS) and the non-adopter (U.S. Department of Energy). A significant estimate is obtained, which implies that the employees’ affective organizational commitment in the U.S. C&IS augmented after introduction of the new job security rule by the DHS between 2004 and 2006.

In Table 8’s second column (model 2), a full set of the control variables is introduced. A significantly positive (p=.004) estimate is obtained when the difference in the effects of the 2004 new job security rule on affective organizational commitment in the DHS is considered. The implication of these results is that DHS’s 2005 revised/modified job security rule affects the commitment of employees to the organization by 19.1 percentage points. In accordance with H2, the modified/revised job security rule that was adopted by the DHS in 2005 is found to have positively affected the affective organizational commitment of the civilian employees. On an
individual level, the control variables in model 2 are highly significant in the expected direction except two variables (i.e., gender and race). And policy dummy variable (i.e., the coefficient of term Department of Homeland Security) is found to be statistically insignificant.

Table 8
Comparison Group: Employees in Department of Energy

<table>
<thead>
<tr>
<th></th>
<th>Full Sample, Model 3</th>
<th>Full Sample, Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>After x Department of Homeland Security</td>
<td>0.399**</td>
<td>0.191*</td>
</tr>
<tr>
<td></td>
<td>(0.081)</td>
<td>(0.066)</td>
</tr>
<tr>
<td>Department of Homeland Security</td>
<td>-0.202**</td>
<td>-0.051</td>
</tr>
<tr>
<td></td>
<td>(0.048)</td>
<td>(0.0041)</td>
</tr>
<tr>
<td>After(2004)</td>
<td>-0.247**</td>
<td>-0.081*</td>
</tr>
<tr>
<td></td>
<td>(0.034)</td>
<td>(0.029)</td>
</tr>
<tr>
<td>Promotion Opportunity</td>
<td>-0.084**</td>
<td>(0.023)</td>
</tr>
<tr>
<td>Supportive or Considerate Leadership</td>
<td>0.113**</td>
<td>(0.014)</td>
</tr>
<tr>
<td>Perception of Organizational Justice 1</td>
<td>0.312**</td>
<td>(0.015)</td>
</tr>
<tr>
<td>Perception of Organizational Justice 2</td>
<td>0.122**</td>
<td>(0.017)</td>
</tr>
<tr>
<td>Training and Mentoring</td>
<td>0.059**</td>
<td>(0.015)</td>
</tr>
<tr>
<td>Gender</td>
<td>0.055</td>
<td>(0.015)</td>
</tr>
<tr>
<td>Race</td>
<td>0.008</td>
<td>(0.038)</td>
</tr>
<tr>
<td>Supervisory Status</td>
<td>-0.084**</td>
<td>(0.023)</td>
</tr>
</tbody>
</table>

\[R^2\] 0.0117 0.3433
\[N\] 4789 4777

Note: **p<.001, *p<.05. Unstandardized coefficients. Robust Standard errors are in parentheses

The results of the effect of cancellation Department of Homeland Security (DHS)’s 2004 proposed new job security on the affective commitment of employees to an organization are presented in table 9. Table 9’s first column (model 5) is an illustration of the estimation of the effects of end of 2004 DHS’s new job security rule devoid of control variables. Using the “adopter/non-adopter difference” (coefficient of term After x DHS) a comparison between the
mean difference of the 2008 FHCS and 2004 FHCS of the adopter (U.S. C&IS) and the non-adopter (U.S. Department of Energy). A significant estimate is obtained, which implies that the Department of Homeland Security that ended 2004 proposed job security rule (U.S. Citizenship and Immigration Services) increased affective organizational commitment between 2004 and 2008 compared to U.S. Department of Energy without end of 2004 year proposed job security rule (non-adopter agency).

Table 9

<table>
<thead>
<tr>
<th></th>
<th>Full Sample, Model 5</th>
<th>Full Sample, Model 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>After x Department of Homeland Security</td>
<td>0.379** (0.118)</td>
<td>0.196* (0.094)</td>
</tr>
<tr>
<td>Department of Homeland Security</td>
<td>-0.202** (0.047)</td>
<td>-0.049 (0.042)</td>
</tr>
<tr>
<td>After(2004)</td>
<td>-0.235** (0.038)</td>
<td>-0.099* (0.034)</td>
</tr>
<tr>
<td>Promotion Opportunity</td>
<td></td>
<td>0.129** (0.016)</td>
</tr>
<tr>
<td>Supportive or Considerate Leadership</td>
<td></td>
<td>0.307** (0.018)</td>
</tr>
<tr>
<td>Perception of Organizational Justice 1</td>
<td></td>
<td>0.095** (0.019)</td>
</tr>
<tr>
<td>Perception of Organizational Justice 2</td>
<td></td>
<td>0.066** (0.017)</td>
</tr>
<tr>
<td>Training and Mentoring</td>
<td></td>
<td>0.0076** (0.019)</td>
</tr>
<tr>
<td>Gender</td>
<td>0.041 (0.0029)</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>0.002 (0.044)</td>
<td></td>
</tr>
<tr>
<td>Supervisory Status</td>
<td>-0.091** (0.026)</td>
<td></td>
</tr>
</tbody>
</table>

| R²                                  | 0.011                | 0.348                |
| N                                   | 3474                 | 3465                 |

Note: **p<.001, *p<.05. Unstandardized coefficients. Robust Standard errors are in parentheses.
In Table 8’s second column (model 6), a full set of the control variables is introduced. A significantly positive \( p = .037 \) estimated is obtained when the difference in the effects of the 2007 cancellation of job security rule on affective organizational commitment in the DHS is considered. The implication of these results is that 2007 year ended 2004 DHS new job security rule affects the affective commitment of employees to the organization by 19.6 percentage points. In accordance with H3, the cancellation of job security rule that was adopted by the DHS in 2007 is found to have positively affected the affective organizational commitment of the civilian employees.

On the individual level, the control variables in model 6 are highly significant in the expected direction except for three variables (; perception of arbitrary action, personal favoritism and coercion perception & training and mentoring in organization). The results in the policy dummy variable (coefficient of term Department of Homeland Security) shows possible differences between U.S. Citizenship and Immigration Services and U.S. Department of Energy before the policy change occurs (end of 2004 proposed job security rule). Thus, coefficient on Department of Homeland Security shows that, proportion of U.S. Citizenship and Immigration Services workers satisfied with their affective organizational commitment was lower on average in the pre-2007 period, compared to DOE workers.
Discussion

The literature concerning the manner in which AWE practices impinges on the attitudes of work in the federal government agencies is limited. This study’s first hypothesis, suggested that the introduction of the 2004 job security rule spurred feelings of uncertainty among employees in the DHS, which in turn negatively affected the employees’ level of affective commitment to DHS. The findings of the study imply that indeed there was a 16 percentage points decline in the employees’ level of affective commitment to the DHS after the introduction of 2004 new job security rule, which is considered to be a significant negative effect. This finding corresponds to Yang Kasserkert’s (2009) argument that when the protection of the civil service is reduced, the employees’ sense of job security declines, which results in negative impacts on their affective commitment to the organization.

In the new regulation, the employees who are appointed to the DHS are given an “initial service period” of one-to-two years (Federal Register, 2004, p. 8044; Kellough et al., 2010, p. 410). The probationary period given to employees after being appointed to a federal agency was about twice as long as the one that was set in new job security rule (Title 5, part 315 Subpart H, Section 315.801 of the Code of Federal Regulations). According to Kellough et al. (2010, p. 412), when the probationary period is reduced that much, the employees are significantly affected because they can be subjected to disciplinary action or even dismissed from the organization during probation without being given prior notice or being given the right to take action in accordance with procedural due process.

AWE is viewed to have an underlying logic by many advocates. The underlying logic according to Kellough and Nigro (2006, p.464) is that it motivates the public employees who perform poorly to become more productive and responsive to management because they know
that they can be dismissed from work without a cause or reason. However, the findings that of the study in regard to (H1) can be explicated by the fact that rather than the 2004 DHS rules perceived as motivators of productivity and responsiveness they were viewed as threats to the employees perceived job security which then lead to a decline in their affective commitment to the organization. Steers (1977, p. 48) asserts that organizational commitment is particularly related to the productivity of employees based on the assumption that employees who are committed are more likely to put forth more effort when carrying out their roles in the job. The study’s finds correspond to H1, which states that the new at-will job system that was espoused by DHS in 2004 does not assure the civilian employees of their security and will therefore have negative effects on their affective organizational commitment.

Moreover, the findings of this study that pertain to (H2 and H3) suggest that the relaxation and annulment of the DHS’s job security rule may have increased affective commitment of its employees to the organization by 19.1 to 19.6 percentage points. If true, these findings imply that revising the job security rule has a significant impact on the level of affective organizational commitment among the DHS workers during the post-2004 period, which possibly improved the overall productivity of the employees in the agency (Van Ryzin’s 2012, p.10). The findings of this study’s DID analysis for revision/modification of the job security rule in 2005 as well as that of the cancellation of the job security rule in 2007 imply that the revision/modification and cancellation of the job security rule had significant effects on the DHS’s workers affective commitment to the organization (Grosso & Van Ryzin 2012; Van Ryzin 2012). The improvement in affective organizational commitment that was established in this study is statistically and substantively significant. As a result, this study provides some evidence that new job security rule that was adopted by the DHS unsuccessful, particularly in its
effort to improve the productivity and affective organizational commitment of the employees to the organization.

This section also highlights the limitations of data and methodology encountered in the conduct of this study. It is important to delve into these limitations prior to making conclusions or stating the practical implications of the study’s finding.

One of the limitations of this study is that I employed the DID model to make a comparison between the Department of Energy that was not subjected to the job security rule and the DHS that adopted the new job security rule before 2004. This model’s drawback in this study is that it depends on FHCS data that only accounts for the agencies’ activities from 2002 onward. The FHCS does not provide data regarding the affective organizational commitment among employees in two federal agencies before 2002. The affective organizational commitment among employees in the U.S. C&IS, which is a sub-agency of DHS, may have been on a downward trend before 2002, regardless of the fact that the trend observed from 2002 to 2004 seems to be rather abrupt.

Another limitation of using data from the FHCS as explained by Van Ryzin (2012, p.10) is that it accounts for a limited range of variables that be used as control factors that may have influenced the employees in the U.S. C&IS and the Department of Energy. It is imperative for this empirical test design to hold a myriad of confounding factors constant to control any other alternative explanation to the changes in the levels of affective organizational commitment among federal employees. However, as noted in this study, the model did not take account of a large number of control variables necessary in alleviating the potentially confounding effects on affective organizational commitment as a result of limitation in the data. This study should also have taken the agency and employee control variables into account. These factors are worth
looking into because of potential year-to-year volatility in the characteristics of employees (Hvidman & Andersen, 2010; Henry et al., 2010). The researcher should have taken agency control factors into consideration. Examples of agency control factors include information regarding the existence of labor union, collective bargaining power, ratio of union employees to non-union employees, as well as the political and institutional context of both agencies. The researcher should also have taken employee control factors into consideration. Examples of such factors include the employee’s pay category, amount of tenure, and education level.

Another noteworthy limitation of this study’s DID statistical strategy is that the affective organizational commitment’s downward trend in the U.S. C&IS might have been caused by another unidentified event that took place at the same time as the establishment of the new job security rule (Van Ryzin 2012, p.10). If so, the impacts of the new job security rules might have been contaminated by the other simultaneous and unidentified event. This model’s basic assumption is that the treatment group (U.S. C&IS) and comparison group (DOE) would have had similar trends if the intervention were not implemented. This basic assumption would be violated if the other simultaneous unidentified event also affects affective organizational commitment of employees in U.S. C&IS. This study’s results would particularly be contaminated if there was an extensive introduction of other interventions that affect employees, affective organizational commitment in the U.S. C&IS than in the DOE in 2003-2004 (Hvidman & Anderson, 2013). During the introduction of the new job security rule, DHS also stopped using the government-wide General Schedule classification system and adopted another broader pay banding policy in a bid to use as a tool to enhance its employee compensation flexibility (Brook & King, 2007; Brook & King, 2008; Riccucci & Thompson, 2008; Kellough et al., 2010).
Consequently, it is possible that the change in the affective organizational commitment among DHS employees may not only have been caused by the adoption of the new job security rule, but also by other events that took place during that time. The latter particularly might have lowered the affective organizational commitment of employees to the DHS regardless of whether actual job security is not high.

In spite of its limitations, this study has attempted to provide the first evaluation of the effects of changes in the rules of job security on employee work attitudes. Though there have been a myriad of arguments about AWE practices, there have only a small number of studies that have tried to examine the impact of such new arrangements on the federal employees’ perceptions and attitudes toward their jobs (Grosso & Van Ryzin, 2012; Van Ryzin 2012). This study’s unique setting allows the researcher to delve into the differences in treatment group’s employee behavior during different periods of time, then compare it with the control group using the DID method. Despite the fact that a number of studies have reported cross-sectional, short-term impacts, hardly any study has delved into the how the attitudes or behaviors of employees have been effected by different changes in the job security rules by making a comparison of the treated units prior to and after treatment. In a bid to perform more meticulous analysis, this study drew its data from a large, multi-year dataset in DHS as well as the Department of Energy. The findings correspond to H1, which states that the new at-will job system that was espoused by DHS in 2004 did not assure the civilian employees of their security and therefore had negative effect on their affective organizational commitment. This also corresponds to Yang and Kassekert’s (2009) argument that one of the concerns of the at-will system of employment is management of the attitudes and behaviors of the employees in the workplace. As a result, this finding will make an immense contribution to the literature on job security as well as that of
human resource and industrial relations. In the future, it would be important to conduct a complementary study to differentiate the effect of change in the job security rule from the other events that took place that the same time. If data regarding the adoption of the pay banding or pay-for-performance system was available, the proponent of this study would analyze how it correlates with the new job security rule. Hvidman and Andersen (2013) assert that by doing so, evidence of whether the establishment of new job security rule has any correlation with the use of pay banding or pay-for-performance system would be provided.

Future studies in this field can also specifically investigate the impact of AWE practices on the employee’s work attitude in other federal agencies so that a more effective generalization can be achieved. Another consideration that can be made in future studies is the use of other criteria, such as public trust, motivation to work, manipulation, or even political interference. Furthermore, future studies in this field also need to consider delving into more confounding factors between the affective organizational commitment of employees in their jobs and the job security rule. The use of different variables in the criteria and the consideration of more confounding factors can be of utmost importance in explicating the current empirical study’s consistent results.

**Conclusion**

The MaxHR Personnel was a controversial system adopted by the DHS in the last 10 years, which temporarily had immense effects on the employees in the federal agencies. The change in the job security policy that is being experienced by the U.S. Department of Homeland Security takes the form of a naturally-occurring experiment upon which this research can capitalize to increase the understanding of the impact of job security. Though there have been a
myriad of arguments about AWE practices, there have been only a small number of studies that have tried to examine the impact of such new arrangements on the federal employees’ perceptions and attitudes toward their jobs. This study provides empirical evidence using data from FHCS. FHCS is a continuous cross-sectional dataset that was initiated in 2002, and then others followed in 2004, 2006, 2008, 2010, 2011, and 2012. This study analyzes the U.S. C&IS. as a proxy for the DHS. The analysis of the agency is generalized as the analysis of the entire DHS. The effect of the changes in the rules of job security on the affective organizational commitment among the employees in the DHS is examined using the DID methodology.

In the results of this study, a significantly negative (p=.012) estimate is obtained when the difference in the effects of the 2004 new job security rule on affective organizational commitment in the DHS is considered. Furthermore the modified/revised job security rule and the cancellation of the rule were found positively to have affected the affective organizational commitment of the civilian employees.

This study provides some evidence to Kellough and Nigro’s (2006, p. 463) assertions that the new job security rule that was adopted by the DHS was unsuccessful, particularly in its effort to improve the productivity and affective commitment of the employees to the organization. According to Yang and Kassekert (2009), policymakers and managers are supposed to be well acquainted with the potential stress that employees experience while under the at-will system of employment. The findings of this study regarding the positive effects of the modified/revised job security rule and the cancellation of the rule correspond to the notion that traditional civil service protection augments the sense of job security among employees, which in turn boosts their affective commitment to the organization. The findings of this study pose difficult but significant
questions upon which policymakers can deliberate on whether to “end” or “mend” the at-will employment system.
During the twentieth century, job security became an integral part of public administration and management. Job security was clearly part of the package of civil service reforms that diffused widely in the U.S., within the federal government over time and across levels of government (Tolbert and Zucker, 1983; Ingrahm, 2006). Job security for public employees had become institutionalized, that is, it had undergone “the process through which components of formal structure become widely accepted, as both appropriate and necessary, and serve to legitimate organizations” (Tolbert and Zucker, 1983, p.25). However, new generation of civil service reform has lately been adopted by the state and federal government. These changes have seen some amendments in the way public workers and their managers relates by making it possible for at-will termination to happen without following the legal procedure (Kellough & Nigro 2006). A new civil service reform has been heightened by the recent changes which have done away with the job protection like the ones in Georgia and the U.S Department of Homeland Security.

The results of the recent civil service reform have been broadly explored by research that focuses on job security. This study focuses on the reaction of public workers who have limited job security towards the various structure of management related to the state civil service changes. The issue that stands tall here is how the managers and the policy makers create suitable managerial environment that will help employees to facilitate desirable behaviors and attitudes while at work at the time when there are minimal job security protections. When the
workers are subjected to limited job security, not much is known about what influence their employee work attitudes and behavior.

I investigated if a number of organizational practices that elevate the employees’ insight of job protection change the employee work attitudes and behavior by making use of samples of state and federal workers who have limited job security or protection. I used the job security (insecurity), uncertainty management, organizational support, and organizational learning literature as the basis for defining that organizational practice that supported employee perception of job security (reducing job insecurity). This study demonstrated that federal and state government employee work behavior and attitudes with limited job protections or security were influenced by the set of organizational practices to support perception of job security. I further found that the effect of four organizational practices to increase perception of job security on employee attitudes might vary by value of individuals’ dependencies on their current jobs. I confirmed these results using multinomial logit model and ordered logit model.

This paper begins with a review of the literature on job security and related organizational behavior theory. I then present the data and methods used in the study. The results of the statistical analysis are then presented. The study concludes with a discussion of the results and suggestions for future research.

**Development of Theory and Hypotheses**

Public employees have experienced extensive changes in U.S such as the policy of at-will employment. These changes might alter the manner in which the organization and the workers relates through misinterpretations and disputes (Rosen et al., 2009). According to Rosen et al.
(2009), the insecurity of these relationships may result in negative perception by the workers that their organization has failed to carry out its duties. The manner in which the workers view organizational environment and how an organization create suitable managerial environment in order to enhance desirable worker behavior and attitudes in a time when there is minimal job protection or security is important in determining the way these workers behave and how they perceive their work. These also help them to positively move on psychologically even when there are limited protections in job security (Johns 2006; Ngo et al., 2013). I have focused on four major organizational environments among the many other facets that may be successful ways in dealing with volatility inherent in alleged job security. These organizational environments include distributive justice, procedural justice, empowerment, and prospective growth opportunities via training and development. This study evaluates whether the attitude and behavior of the workers of these organizational environment may be influenced by organizational practices and the way these workers reacts towards their organization there is a declining job security protection (Ngo et al., 2013). This paper commences y reviewing the literature of job security. It the proceeds with a brief review these factors and elaborates the impact they have on job security model, group value theory, uncertainty management theory, organizational support theory and fairness heuristic theory.

**Uncertainty, powerlessness, and job security**

It was identified by Thompson and Davis (1956) that the perception of workers toward security is a set of cognitions that results from a feeling of self-belief in the entire work situation and in themselves, being confident with the company’s stability they are working for, being contented with the way they are treated by their supervisors, and having the feeling of belonging.
According to Provost (2002), job security is the apparent stability and continuation of one’s task the way one is acquainted with it.

Job insecurity has been defined by Greenhalgh and Rosenblatt (1984) as inability to uphold the preferred results in a job situation that is threatening. The principal conclusion of this definition is that job insecurity can be better understood by a person who is involved in that particular work environment. The sense of powerlessness is core to job insecurity. Job insecurity raises anxiety about future’s insecurity: the workers who feel insecure are concerned about the fate of their current job (De Witte, 2005). Uncontrollability and unpredictability are the two main aspects that have identified while reviewing what job security means. The manager are not able to respond fully since the aspect of unpredictability is not lucid to the individual concerned about what the future holds (De Witte, 2005). Researchers have referred uncontrollability as the experience incapacity to handle treat as the core of job insecurity. In addition to uncertainty, researchers also treated job security as a powerlessness. According to Greenhalgh and Rosenblatt (1984), job insecurity is powerlessness to uphold the preferred results in a situation where the security of the job has been endangered. If the workers foresee blurred expectations, unfair policies, no worker involvement during decision making and no right of appeal, and executive being illogical while making evaluations and even being unfair while making decisions that affect the workers, the sense of powerlessness will automatically develop (Greenhalgh and Rosenblatt). As a result, powerlessness and uncertainty can be used to better comprehend job insecurity. This study integrates social exchange theory, uncertainty management theory and job insecurity model that was designed by Greenhalgh and Rosenblatt. In this study, I argue that some of the four variables of organizational practice mentioned above may be helpful ways of
tackling the workers’ sense of powerlessness and uncertainty while perceiving job security and these variables will help in redefining the employee work attitudes and behavior.

Development of Hypotheses

One of the most successful ways of tackling the inherent of uncertainty in job security and one that will redefine the workers attitudes and behavior towards their work according to uncertainty management theory that was designed by Lind and Van den Bos (2002), and group value theory designed by Tyler (1988), is using through giving the employees fair treatment. According to the authors of uncertainty management theory, the manner in which individuals deals with uncertainty depend greatly on fairness (Lind & Van den Bos, 2002). Treating the workers fairly can help in minimizing some of the uncertainty and make future predictions easier and achievable (Coloquitt et al. 2006). The group value theory of Tyler (1989) and Van den Bos’s (1999) fairness heuristic theory also reveals that workers explore the information pertaining fairness to establish if at all the organization values them, and thus build the sense of belongingness to the organization. It has been disputed by De Witte (2005) that uncertainty and job insecurity are related since one concerns the other. The sense of powerlessness is said to be core to job insecurity and it is probable to occur any time the workers feel that their have lucid anticipations because the fairness of the organization’s policies is not strong (Greenhalgh & Rosenblatt, 1984). On account of the two theories together with the insecurity model that relates to incapacity and uncertainty, treating the workers fairly may be a successful way of handling the inherent of uncertainty and redefine the work attitudes and behavior. Therefore, this study combines two variables of organizational practice. These variables are procedural justice and distributive justice.
Distributive justice. According to Colquitt and Rodell (2011), this refers to how workers perceive fairness on the basis of result distributions and allocations. There is adequate evidence that, there are considerable impacts of distributive justice on employee work behavior and attitudes- job satisfaction, supervisor’s evaluation, trust with the executives, and turnover intention (Alexander and Ruderman 1987; Cohen-Charash & Spector, 2001).

Workers perceive their organizational environment to be more controllable and predictable when the perceptions of distributive justice are high. They will therefore feel more secured in terms of job security hence this notion is probable to exhibit improved self-described job satisfaction, commitment to the organization and performance. Hence I came up with the following hypothesis:

**Hypothesis 1:** Organizational practice that improves distributive justice, eventually elevating confidence of job security, will be positively related to employees’ job satisfaction

**Hypothesis 2:** Organizational practice that improves distributive justice, eventually elevating confidence of job security, will be positively related to employees’ work group performance

**Hypothesis 3:** Organizational practice that improves distributive justice, eventually elevating confidence of job security, will be positively related to employees’ organizational commitment

Procedural justice. The second organizational practice to increase fairness work environment is *procedural justice*, which refers to the way workers perceive the fairness applied during the process of decision making that affects them (Colquitt and Rodell 2011, p.1183; Colquitt et al. 2006, 110p; Piccoli et al. 2011;Konovsky 2000). In other words, procedural justice refers to the process an organization while making decisions that concerns the workers
(Cropanzano et al. 2002, p. 325; Elovainio et al. 2001). This procedural justice is assessed by considering the accuracy of the procedures, its consistency, whether they are biased and the ability to change them (Colquitt et al. 2006, 110p).

There is adequate evidence on how procedural justice impacts the results of worker productivity, employee job satisfaction, organizational commitment, and turnover intention (Alexander and Ruderman 1987; McFarling and Sweeney 1992; Schappe 1998; Cohen-Charash and Spector 2001; Colquitt et al. 2001; Dewitt et al 1998). This is due to the fact that, the workers are confident with the controllability and predictability of their organizational environment and hence they will feel more secured in terms of job. Hence, I came up with the following hypothesis:

**Hypothesis 4:** Organizational practice that improves procedural justice, eventually elevating confidence of job security, will be positively related to employees’ job satisfaction.

**Hypothesis 5:** Organizational practice that improves procedural justice, eventually elevating confidence of job security, will be positively related to employees’ work group performance

**Hypothesis 6:** Organizational practice that improve procedural justice, eventually elevating confidence of job security, will be positively related to employees’ organizational commitment

**Empowerment.** This is the other variable of organizational practices that minimize the sense of powerlessness in an organizational environment. Empowerment can be referred to as the means to eradicate the sense of powerlessness via establishing the factors that promote this feeling through strict organizational virtues and using methods that will generate reliable information (Conger and Kanugo 1998, P.474). Empowerment in other words means to support
this conviction or eradicate the belief of powerlessness (Conger and Kanugo 1998). A research conducted by (Laschinger et al. 1999) focused on the behaviors of the executives and the workers sense of empowerment. The study used data from a combination of two health centers that were in stiff competition and that were experiencing difficulties with job uncertainty and the reformation of various sectors of operation. The results of this study revealed that workers who operate in reformed organizational situation feel a stronger sense of empowerment if their executives make use of various behaviors of empowerment. For instance, involving the workers in the process of decision making, appreciating the work done by the workers, and giving the workers the appropriate resources in order to perform effectively. The workers work attitudes and behavior is greatly affected by empowerment in an organizational setting. Research has proved that workers who feel empowered exhibit satisfaction with their job, they are dedicated to their organization, they are motivated and they are loyal to their organization (Laschinger et al., 2001; Singler and Pearson 2000, Kirkman and Rosen 2000; Mullins and Peacock, 1991; Greasley, Bryman, Price, Soetanto and King 2005). This results to positive emotional feeling.

Job insecurity is related to sense of powerlessness and hence, this sense of powerlessness is core to job insecurity as discussed earlier (Greenhalgh & Rosenblatt, 1984). Therefore, it is logical to anticipate that, workers will have a positive work attitudes and behaviors when they are empowered in a situation where the feel that their job is threatened. Therefore, I expect that, when employees feel more empowered, they tend to improve their sense of self-efficacy through the establishment of situations that promote the sense of powerlessness. Due to this, the workers will feel more secured in terms of job security. As a result, this workers’ perception will help in improving their organizational performance, commitment and job satisfaction. Therefore, I came up with the following hypothesis:
**Hypothesis 7**: Organizational practice that boost empowerment, eventually minimizing the sense of powerlessness, will be positively related to employees’ job satisfaction

**Hypothesis 8**: Organizational practice that boost empowerment, eventually minimizing the sense of powerlessness, will be positively related to employees’ work group performance

**Hypothesis 9**: Organizational practice that boost empowerment, eventually minimizing the sense of powerlessness, will be positively related to employees’ organizational commitment

**Potential growth opportunity.** As confirmed by the study conducted by Thompson and Davis (1956), a workers viewpoint of security is a set of cognitions that results from a feeling of self-assurance in the entire work environment, self-assurance in the organization’s stability and self-assurance in the opportunity of probable growth. Acquiring new skills and knowledge requires training and development process for the purpose of individual growth (Aguinis and Kraiger 2009, p. 452). Training and development gives the workers an opportunity to maximize their efficiency in the organization and eventually increase their earning power and chances of being employed (Thompson and Davis 1956; Ilvento and Rupasingha 2000).

Giving workers an opportunity to train can be perceived by the employees that the organization mind the welfare of it workers and it could be a significant message in contemporary corporate world plagued by downsizing and employee layoffs (Aguinis and Kraiger 2009, p. 467). With this fact in mind, providing workers with the potential growth opportunity would be lead to an organizational environment that connects workers’ insight of job security with their work attitudes and behavior.

The organization support theory has revealed the effects of providing the potential growth opportunity on the employee work attitudes and behavior (Eisenberger et al., 1986). The theory
disputes that, organizational support towards the workers is perceived as the conviction pertaining an organization’s appreciation towards the workers’ contribution and that the organization is concerned about their well-being (Eisenberger et al. 1986, p. 501). Therefore, organizational can be also defined as an indication that the employer appreciate the workers efforts (Tremblay et al. 2010; Rhoades et al. 2001). Positive experiences achieved by the workers such as getting formal/informal training, is absolutely related to organizational support the workers get (Wayne et al., 1997).

Allen’s et al (2003) also supported the above results by proving that potential growth opportunity were absolutely related to organizational support. They presumed the indicators of potential growth opportunity which the employer identifies and appreciation of workers contribution indicated that training and education are completely related to employee work attitudes and behavior (Tremblay et al. 2010; Allen et al. 2003, p. 102). Moreover, Karia and Assari (2006) demonstrated that training and education are positively related to employee work attitudes and behavior-job involvement, job satisfaction, and organizational commitment. Consequently, it is logical to anticipate that, when workers have participated in the opportunity of formal or informal training in a jeopardized setting of job, the workers are likely to continue feeling that the organization cares for them. This will eradicate the feeling of job insecurity and this viewpoint will help to increase the workers’ job satisfaction, organizational commitment, and work group performance. Therefore, I came up with the following hypothesis:

**Hypothesis 10**: Organizational practice that improves potential growth opportunity, eventually strengthening the feeling that the organization is concerned about its workers, will be positively related to employees’ job satisfaction
**Hypothesis 10**: Organizational practice that improves potential growth opportunity, eventually strengthening the feeling that the organization is concerned about its workers, will be positively related to employees’ work group performance

**Hypothesis 10**: Organizational practice that improves potential growth opportunity, eventually strengthening the feeling that the organization is concerned about its workers, will be positively related to employees’ organizational commitment
PART I. U.S. Department of Homeland Security Analysis

The following empirical analysis examines the relationships between organizational practices to increase perception of job security and job satisfaction, work group performance, and organizational commitment in federal agencies. For the analysis, I used the same procedure as those employed by Fernandez and Moldogaziev (2011 & 2013). The four organizational practices are offering a distributive justice (practice 1); providing a procedural justice (practice 2); offering an empowerment (practice 3); providing a potential growth opportunity (practice 4). The unit of analysis is the individual Department of Homeland Security employee responding to 2004 Federal Human Capital Survey (FHCS). Federal employees in this study were experiencing many of stressors associated with 2004 civil service reform process such as job security rule change. The model of job satisfaction, performance, and organizational commitment that are tested is

\[
Work \text{ attitudes and Behavior (job satisfaction/job performance/organizational commitment)} = f(\text{practice1, practice2, practice3, practice4, leadership style 1, leadership style 2, leadership style 3, gender, minority, supervisory status}).
\]

All four organizational practices are hypothesized to be positively correlated with job satisfaction, performance, and organizational commitment.
Data and Method

**Dependent Variable**

This study focuses on three dependent variables namely: job satisfaction, work group performance, organizational commitment. Job satisfaction is weighed using the following question and indicators: “‘Considering everything, how satisfied are you with your job?’” The response categories range from $1=\text{very dissatisfied}$ to $5=\text{very satisfied}$. Approximately 5% of respondents answered “very dissatisfied”; 12% of respondents answered “dissatisfied”; 17% of respondents answered “neither satisfied nor dissatisfied”; 45% answered “satisfied”; 21% of respondents answered “very satisfied”.

Group work performance is weighed using the feedback from the following question and indicators: “‘How would you rate the overall quality of work done by your work group?’” The response categories range from $1=\text{very poor}$ to $5=\text{very good}$. Approximately 1% of respondents answered “very poor”; 2% of respondents answered “poor”; 13% of respondents answered “fair”; 44% answered “good”; and 40% of respondents answered “very good”.

The variable of organizational commitment weighed using the following questions and indicators: “‘I recommend my organization as a good place to work’” The response categories range from $1=\text{strongly disagree}$ to $5=\text{strongly agree}$. Approximately 7% of respondents answered “strongly disagree”; 11% answered “disagree”; 20% of respondents answered “neither agree nor disagree”; 37% answered “agree”; 24% of respondents answered “strongly agree”. All three dependent variables are a perceptual measure based on the ratings of internal stakeholders (Fernandez and Moldogaziev 2011).
**Independent Variables**

Independent variables of organizational practices that may contribute in reducing job uncertainty by minimizing the sense of uncertainly were represented by practice 1, practice 2, practice 3, and practice 4. To construct an overall rating scale for every practice, survey indicators were derived from 2004 Federal Human Capital Survey (FHCS) (see Appendix A). The indicators used for every practice seems to be weighing the type of executive behavior depicted by organizational fairness, job insecurity, empowerment and the literature of organizational training.

### Table 1. Descriptive Statistics for Independent and Control Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Practice 1 (Distributive Justice)</strong></td>
<td>8.22E-09</td>
<td>0.816</td>
<td>-1.81</td>
<td>1.55</td>
</tr>
<tr>
<td><strong>Practice 2 (Procedural Justice)</strong></td>
<td>-6.51E-09</td>
<td>0.889</td>
<td>-2.07</td>
<td>1.33</td>
</tr>
<tr>
<td><strong>Practice 3 (Empowerment)</strong></td>
<td>5.74E-09</td>
<td>0.904</td>
<td>-1.89</td>
<td>1.58</td>
</tr>
<tr>
<td><strong>Practice 4 (Potential Growth Opportunity)</strong></td>
<td>-5.04E-10</td>
<td>0.77</td>
<td>-2.11</td>
<td>1.48</td>
</tr>
<tr>
<td>Leadership Style1</td>
<td>2.95E+00</td>
<td>1.219</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Leadership Style 2</td>
<td>3.52E+00</td>
<td>1.01</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Leadership Style 3</td>
<td>3.60E+00</td>
<td>1.042</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Gender</td>
<td>1.31E+00</td>
<td>0.464</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Minority</td>
<td>1.30E+00</td>
<td>0.459</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Supervisory Status</td>
<td>1.47E+00</td>
<td>0.524</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

**Note.** Sample size=10478 (Department of Homeland Security). Sample restricted to 8206 valid observations, or 78% of the original sample

Source. 2004 Federal Human Capital Survey

From there, Cronbach’s alpha test was carried out on the scales (see Appendix A). The outcome illustrated moderate to high levels of consistency as depicted by the scale results which ranged from 0.78 for practice 3 to 0.87 for practice 2. The descriptive statistics for these variables and the control variables are shown in Table 1.
Control Variables

This model contains some control variables that gives the characteristics of the survey participant’s. These control variables includes; a dummy variable the participants gender, a dummy variable for minority status (white or black), and a dummy variable for participant’s managerial position.

Data

The data examined in this study are obtained from the 2004 FHCS that were carried out by the U.S Office of Personal Management. Department of Homeland Security experiences escalating job insecurity. Since federal workers were subjected to various negative work attitudes associated to the process of changes in civil service policies, such as the job security policies that resulted to lower levels of job security protections (low level of objective job security), most federal workers experienced various stressors. The U.S reported the need to have a new Department of Homeland Security (DHS) in the year 2002. The same year, U.S president endorsed the Public law 107-296, known as the Homeland Security Act. This Act was comprised of twenty-two different Federal departments and agencies. The authority of establishing a fresh human resource management system known as MaxHR was assigned to the DHS together with OPM executives. DHS publicized information on the Federal Register about its agenda to put into practice its new personnel system that featured all civilian workers in the department in the year 2004 (Federal Register, 2004). This study centers on the examination of workers at the DHS in the year 2004. The survey was conducted the same year. The survey was administered to approximately 2276,000 federal workers. The rate of response was above 54% since most of the workers took the platform to address their grievances that concerns human capital management.
The FHCS survey is comprised of 10,478 DHS observations. Out of this number, 8,206 which is equivalent to seventy-eight percent are incorporated in the concluding analysis and the other observations dropped due to missing data on the independent, dependent or control variables. The descriptive statistics for these remaining observations are shown in Appendix C.

**Model Selection and Fit Tests**

An ordinal survey indicator is used to weigh the dependent variables that include job satisfaction, work group performance and organizational commitment. Biased coefficients and inaccurate results will be achieved if the regression of ordinary least square (OLS) is used to assess the dependent variable (Long, 1997; Long & Freese, 2006). In this study four types of competing equations using ordinary least squares (OLS), ordered logit model (OLM), ordered probit model (PM), and multinomial logit model (MLNM) regression were evaluated. This model included ordered logit model, ordered probit model OLS and multinomial logit model. After a thorough examination on the results of the four regression model, these results pointed

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8 For the model selection and fit test, I used the same procedure as those employed by Fernandez and Moldogaziev (2011, p. 30-31 & 2013). For the job satisfaction variable case, the conventional fit statistics such as the Ailaike’s information criterion (AIC) and the Bayesian information criterion (BIC) scalars propose that OLM offers a better fit for the data (Table 2). The absolute value of the difference between these statistics for OLM in contrast to OLS, PM, and a MNLM specification is large; the OLM approximations are significantly and adequately smaller (Fernandez and Moldogaziev 2011). The likelihood ratio $\chi^2$ coefficient for the OLS proposes a better fit than the ordinary least squares, ordered logit, and ordered probit specifications of the dependent variable. Lastly, the four $R^2$ coefficients reported (McFadden’s, Cox-Snell’s, McKelvey and Zavoina’s and Cragg-Uhler’s) pointed that the multinomial logit and ordered logit functional forms of job satisfaction results to slightly better results than the PM model.

For the work group performance variable case, the conventional fit statistics such as the Ailaike’s information criterion (AIC) and the Bayesian information criterion (BIC) scalars propose that PM provides a better fit for the data (Table 2). The absolute value of the difference between these statistics for PM in contrast to OLS, OLM and MnLM specifications is large; the PM estimates are significantly and sufficiently smaller. The likelihood ratio $\chi^2$ coefficient for the OLS suggests a better fit than the ordered logit, ordered probit and multinomial logit specifications of the dependent variable. Finally, the four $R^2$ coefficients reported (McFadden’s, Cox-Snell’s, McKelvey and Zavoina’s and Cragg-Uhler’s) indicate that the multinomial logit and ordered probit functional forms of work group performance produce slightly better results than the OLM model.
out that the best model specification for job satisfaction, work group performance, and organizational commitment of the workers is the multinominal logit model (MNLM).

Lastly, for the *organizational commitment* variable case, the conventional fit statistics such as the Ailaike’s information criterion (AIC) and the Bayesian information criterion (BIC) scalars suggest that OLM provides a better fit for the data (Table 2). The absolute value of the difference between these statistics for OLM in contrast to OLS, PM and MNLM specifications is large; the OLM estimates are significantly and sufficiently smaller. The likelihood ratio $\chi^2$ coefficient for the OLS suggests a better fit than the ordered logit, ordered probit and multinomial logit specifications of the dependent variable. Finally, the four $R^2$ coefficients reported (McFadden’s, Cox-Snell’s McKelvey and Zavoina’s and Cragg-Uhler’s) indicate that the multinomial logit and ordered logit functional forms of *organizational commitment* produce slightly better results than the PM model.

In short, the evidence at hand from generic tests of fit appears to point to the OLM or PM model as the preferred specification for three limited dependent variables, even though the $R^2$ scores are not particularly helpful in tipping the scales in favor of any single specification.

The OLM and PM model estimations are based on the rationale of proportional odds or parallel regression equations. These two models presumes that the underlying intervals between the closest categories of the outcome variable are equal. Consequently, it is presumed that a change in the explanatory variable results in an identical slope coefficient irrespective of the value of an outcome category. With coefficients of the effects unchanged, the only statistic that changes is the intercept (Fernandez and Moldogaziev 2011, p.30).

A violation of the assumption of parallel regression when using ordered logit model (OLM) and ordered probit model (PM) estimations may generate flawed outcomes and lead to incorrect conclusions, representing the need to use a multinominal logit specification (Long, 1997; Long & Freese, 2006). Therefore, the next step in establishing the proper fit for the data is concluding whether the OLM and PM estimates violate the primary assumption of parallel regression. The Brant test of parallel regression assumption is conducted to acquire such fact. The outcome proposes that the three variables of subjective job security environment taken together violate the supposition of parallel regression. For the *job satisfaction* variable case, when taken individually, none of the three organizational practice variables and control variables in the model passes the parallel regression test. The overall model fails the test with a $\chi^2_{df=30}$ coefficient of 113.14, therefore indicating that a multinominal specification should be selected instead of the OLM. Second, for the *work group performance* variable case, when taken individually, only practice 4 passes the Brant test, with the other three variables failing this test quite significantly ($p<.001$). None of the control variables in the model pass the parallel regression test either. The overall model fails the test with a $\chi^2_{df=30}$ coefficient of 169.19, hence indicating that a multinominal specification should be selected instead of the PM. Lastly, for the *organizational commitment* variable case, when taken individually, none of the four perceived job security variables in the model passes the parallel regression test. Only leadership style 1 variable passes the Brant test, with the other control variables failing this test quite significantly ($p<.001$). The overall model fails the test with a $\chi^2_{df=30}$ coefficient of 134.78, hence indicating that a multinominal specification should be selected instead of the OLM. When the supposition of parallel regressions is rejected, substitute models should be considered that do not inflict the constraint of parallel regressions (Long 1997, p.145). In other words, these results point to the multinominal logit model of *job satisfaction, work group performance and organizational commitment* as the best model.
<table>
<thead>
<tr>
<th>Variable Description</th>
<th>Dependent Variable: Job Satisfaction</th>
<th>Dependent Variable: Work Group Performance</th>
<th>Dependent Variable: Organizational Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OLS</td>
<td>ORM</td>
<td>PM</td>
</tr>
<tr>
<td>Practice 1</td>
<td>0.007</td>
<td>0.061</td>
<td>0.384</td>
</tr>
<tr>
<td>(Clear Expectancy)</td>
<td>(0.017)</td>
<td>(0.047)</td>
<td>(0.027)</td>
</tr>
<tr>
<td>Practice 2</td>
<td>0.090***</td>
<td>0.232***</td>
<td>0.116***</td>
</tr>
<tr>
<td>(Fair Treatment)</td>
<td>(0.014)</td>
<td>(0.040)</td>
<td>(0.022)</td>
</tr>
<tr>
<td>Practice 3</td>
<td>0.464***</td>
<td>1.244***</td>
<td>0.682***</td>
</tr>
<tr>
<td>(Empowerment)</td>
<td>(0.015)</td>
<td>(0.045)</td>
<td>(0.022)</td>
</tr>
<tr>
<td>Practice 4</td>
<td>0.404***</td>
<td>1.210***</td>
<td>0.661***</td>
</tr>
<tr>
<td>(Potential Growth</td>
<td>Opportunity)</td>
<td>0.016</td>
<td>(0.048)</td>
</tr>
<tr>
<td>Con 1</td>
<td>0.084***</td>
<td>0.240***</td>
<td>0.144***</td>
</tr>
<tr>
<td>(0.01)</td>
<td>(0.028)</td>
<td>(0.016)</td>
<td>(0.109)</td>
</tr>
<tr>
<td>Con 2</td>
<td>0.033*</td>
<td>0.107**</td>
<td>0.060**</td>
</tr>
<tr>
<td>(0.013)</td>
<td>(0.035)</td>
<td>(0.020)</td>
<td>(0.089)</td>
</tr>
<tr>
<td>Con 3</td>
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<td>-0.045</td>
<td>-0.030</td>
</tr>
<tr>
<td>(0.103)</td>
<td>(0.036)</td>
<td>(0.020)</td>
<td>(0.088)</td>
</tr>
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<td>Gender</td>
<td>0.001</td>
<td>-0.010</td>
<td>-0.008</td>
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<tr>
<td>Minority</td>
<td>0.055**</td>
<td>0.129**</td>
<td>0.077**</td>
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<td>(0.017)</td>
<td>(0.049)</td>
<td>(0.029)</td>
<td>(0.150)</td>
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<td>-0.053**</td>
<td>-0.123**</td>
<td>-0.068**</td>
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<tr>
<td>(0.016)</td>
<td>(0.045)</td>
<td>(0.025)</td>
<td>(0.144)</td>
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<tr>
<td>AIC</td>
<td>2.19</td>
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<td>1.97</td>
</tr>
<tr>
<td>BIC</td>
<td>55906.5</td>
<td>-57809.1</td>
<td>-57899.9</td>
</tr>
<tr>
<td>Likelihood ratio $\chi^2$</td>
<td>6945.37</td>
<td>6961.068</td>
<td>6881.95</td>
</tr>
<tr>
<td>McFadden's $R^2$</td>
<td>-</td>
<td>0.302</td>
<td>0.298</td>
</tr>
<tr>
<td>ML (Cox-Snell) $R^2$</td>
<td>-</td>
<td>0.572</td>
<td>0.566</td>
</tr>
<tr>
<td>McKelvey and Zavoina's $R^2$</td>
<td>-</td>
<td>0.626</td>
<td>0.625</td>
</tr>
<tr>
<td>Cragg-Ulrich's $R^2$</td>
<td>-</td>
<td>0.609</td>
<td>0.602</td>
</tr>
</tbody>
</table>

Note: AIC=Akaike's information criterion; BIC=Bayesian information criterion; ML=Maximum likelihood

*p<.05, **p<.01, ***p<.001.
| Comparison | Statistic | Practice 1 | Practice 2 | Practice 3 | Practice 4 | Comparison | Practice 1 | Practice 2 | Practice 3 | Practice 4 | Comparison | Practice 1 | Practice 2 | Practice 3 | Practice 4 |
|------------|----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| VDF | $\beta_{VDF}$ | -0.200 | -0.331 | -2.460 | -1.968 | VP | -0.911 | -0.169 | -1.440 | -1.022 | SD | -0.191 | -0.457 | -1.629 | -1.087 |
| | $\exp(VDF)$ | 0.819 | 0.718 | 0.085 | 0.140 | G | 0.402 | 0.844 | 0.237 | 0.360 | AG | 0.826 | 0.633 | 0.196 | 0.355 |
| | p | 0.153 | 0.001 | 0.000 | 0.000 | | 0.011 | 0.479 | 0.000 | 0.000 | | 0.108 | 0.000 | 0.000 | 0.000 |
| DSF | $\beta_{DSF}$ | -0.103 | -0.112 | -1.408 | -1.279 | P | -0.345 | -0.007 | -0.765 | -0.630 | DA | -0.144 | -0.239 | -0.890 | -0.760 |
| | $\exp(DSF)$ | 0.903 | 0.894 | 0.245 | 0.278 | G | 0.708 | 0.993 | 0.465 | 0.533 | AG | 0.866 | 0.788 | 0.411 | 0.468 |
| | p | 0.237 | 0.111 | 0.000 | 0.000 | | 0.057 | 0.956 | 0.000 | 0.000 | | 0.095 | 0.001 | 0.000 | 0.000 |
| NSF | $\beta_{NSF}$ | -0.091 | -0.184 | -0.705 | -0.868 | F | -0.308 | 0.049 | -0.402 | -0.263 | NAD | -0.047 | -0.222 | -0.650 | -0.455 |
| | $\exp(NSF)$ | 0.913 | 0.832 | 0.494 | 0.420 | G | 0.735 | 1.050 | 0.669 | 0.768 | AG | 0.954 | 0.801 | 0.522 | 0.634 |
| | p | 0.199 | 0.002 | 0.000 | 0.000 | | 0.000 | 0.413 | 0.000 | 0.000 | | 0.487 | 0.000 | 0.000 | 0.000 |
| VSF | $\beta_{VSF}$ | 0.007 | 0.286 | 1.027 | 1.191 | VG | 0.291 | 0.040 | 0.260 | 0.099 | SA | -0.045 | 0.266 | 0.834 | 0.642 |
| | $\exp(VSF)$ | 1.007 | 1.331 | 2.793 | 3.289 | G | 1.338 | 1.041 | 1.297 | 1.104 | AG | 0.956 | 1.305 | 2.302 | 1.901 |
| | z | 0.095 | 3.892 | 12.618 | 13.536 | | 5.318 | 0.842 | 5.276 | 1.805 | | -0.610 | 3.665 | 11.241 | 8.251 |
| | p | 0.924 | 0.000 | 0.000 | 0.000 | | 0.000 | 0.400 | 0.000 | 0.071 | | 0.542 | 0.000 | 0.000 | 0.000 |

Note: 1. Job Satisfaction (five-choice outcome): VD: Very Dissatisfied; DS: Dissatisfied; NS: Neither Satisfied nor Dissatisifed; SF: Satisfied (Baseline Category); VS: Very Satisfied 2. Work Group Performance (five-choice outcome): VP: Very Poor; P: Poor; F: Fair; G: Good (Baseline Category); VG: Very Good 3. Organizational Commitment (five-choice outcome): SD=Strongly Disagree; DA=Disagree; NAD=Neither Agree nor Disagree; AG=Agree (Baseline Category); SA=Strongly Agree. $\beta$ is the logit coefficient; $\exp(\beta)$ is the factor change; $z$ is the z-statistic, p is the significance level.
Results

1) Job Satisfaction

The Multinomial Logit Model’s (MNLM) results in table 3 indicates that 3 out of the 4 organizational practices of increasing the perception for job security practices namely practices 2, 3 and 4 have a statistical correlation with the job satisfaction (p<.001). Notably, practice 1 is unable to achieve statistical significance (p=.153). Additionally, for the interpretation of the MNLM results, the category of comparison response should be “satisfied.” Essentially, for practices 2, 3 and 4, the substantive scale of the correlations are of significant size. Moreover, for each unit increment within any of the 4 subjective variables for job security, the possibility of achieving “very dissatisfied”, “dissatisfied”, and “neither satisfied nor dissatisfied” feedbacks, reduces than the possibility of acquiring a “satisfied,” feedback within the comparative group. Conversely, for the increase in each unit within the 4 organizational practices aimed at increasing job security practices’ perception, the possibility of achieving a “very satisfied” feedback increases compared to the possibility of achieving a “satisfied” feedback. Seemingly, the substantive impact for practice 2 is fragile, and those for practices 3 and 4 are more robust. This has been indicated using graphs in figures 1 to 4, which shows the forecasted dependent variable levels across the 4 organizational practices ranges, with other variables remaining constant in their average values (table 4).

Figure 1 shows the job satisfaction levels across practice 1, thus offering a distributive situation. As indicated in the first hypothesis, practice 1 ought to have a positive correlation with the dependent variable. The results for the MNLM regression do not show any significant correlation between the dependent variable and the organizational practice, thus the first hypothesis is dismissed. All the lines that represent the forecasted probabilities of the 5 responsive groups for
the dependent variable are straight over the practice 1 range. Even in the presence of a minor slope (for instance, Neither Satisfied nor Dissatisfied), the size of the impact is almost zero.

Hypothesis 4 suggests that practice 2, which provides a procedural setting, would have a correlation with job satisfaction. The results for the MNLM regression are supportive of this hypothesis, because they indicate the constructive correlation that exists between practice 2 and the dependent variable. Figure 2 shows the forecasted probabilities for the response categories of the dependent variable across the organizational practice. The forecasted levels for the “very satisfied” group, increases by 0.08 when there is movement from the lowest thresholds for practice 2 towards the highest. The forecasted group levels for “neither satisfied nor dissatisfied” reduce by 0.11 when there is movement over the practice 2 range. The remaining response categories show flat lines. The impacts of practice 2 on job satisfaction, even though statistically considerable are almost zero.
### Table 4. Discrete Change in the Probability of Job Satisfaction, Work Group Performance, and Organizational Commitment for Multinomial Logit Model (all other Variables Held at Mean Values)

| Variable | Change | Mean | VD | DS | NSD | VS | SF | Mean | VP | P | F | VG | G | Mean | SD | DA | NAD | SA | AG |
|----------|--------|------|----|----|-----|----|----|------|----|----|---|----|----|----|------|----|----|-----|----|----|
| Overall  | P(\(\bar{Y}\)) at mean | -    | 0.00 | 0.06 | 0.20 | 0.08 | 0.66 | -    | 0.00 | 0.00 | 0.10 | 0.39 | 0.51 | -    | 0.01 | 0.07 | 0.26 | 0.13 | 0.54 |
| Practice 1 (Distributive Justice) | \(\Delta \)Range | 0.02 | 0.00 | -0.02 | -0.04 | 0.01 | 0.05 | 0.11 | 0.00 | -0.01 | -0.13 | 0.27 | -0.12 | 0.02 | 0.00 | -0.03 | -0.01 | -0.01 | 0.05 |
|         | \(\Delta I\) | 0.01 | 0.00 | 0.00 | -0.01 | 0.00 | 0.01 | 0.03 | 0.00 | 0.00 | -0.03 | 0.07 | -0.03 | 0.01 | 0.00 | -0.01 | 0.00 | 0.00 | 0.01 |
|         | \(\Delta \sigma\) | 0.01 | 0.00 | 0.00 | -0.01 | 0.00 | 0.02 | 0.03 | 0.00 | 0.00 | -0.04 | 0.08 | -0.04 | 0.01 | 0.00 | -0.01 | 0.00 | 0.00 | 0.02 |
| Practice 2 (Procedural Justice) | \(\Delta \)Range | 0.05 | 0.00 | -0.02 | -0.11 | 0.08 | 0.05 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | -0.04 | 0.09 | -0.01 | -0.05 | -0.16 | 0.13 | 0.09 |
|         | \(\Delta I\) | 0.01 | 0.00 | 0.00 | -0.03 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | -0.01 | 0.02 | 0.00 | -0.01 | -0.04 | 0.04 | 0.02 |
|         | \(\Delta \sigma\) | 0.02 | 0.00 | -0.01 | -0.03 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | -0.01 | 0.03 | 0.00 | -0.01 | -0.05 | 0.04 | 0.02 |
| Practice 3 (Empowerment) | \(\Delta \)Range | 0.27 | -0.07 | -0.35 | -0.25 | 0.37 | 0.30 | 0.11 | 0.00 | -0.02 | -0.17 | 0.27 | -0.08 | 0.25 | -0.06 | -0.19 | -0.37 | 0.42 | 0.20 |
|         | \(\Delta I\) | 0.07 | 0.00 | -0.07 | -0.10 | 0.09 | 0.08 | 0.03 | 0.00 | 0.00 | -0.04 | 0.07 | -0.03 | 0.07 | -0.01 | -0.05 | -0.12 | 0.11 | 0.06 |
|         | \(\Delta \sigma\) | 0.08 | 0.00 | -0.08 | -0.11 | 0.10 | 0.09 | 0.03 | 0.00 | 0.00 | -0.04 | 0.08 | -0.03 | 0.08 | -0.01 | -0.06 | -0.13 | 0.13 | 0.07 |
| Practice 4 (Potential Growth Opportunity) | \(\Delta \)Range | 0.29 | -0.03 | -0.31 | -0.38 | 0.40 | 0.31 | 0.05 | 0.00 | -0.02 | -0.10 | 0.13 | -0.01 | 0.20 | -0.03 | -0.20 | -0.28 | 0.31 | 0.20 |
|         | \(\Delta I\) | 0.06 | 0.00 | -0.05 | -0.11 | 0.09 | 0.07 | 0.01 | 0.00 | 0.00 | -0.02 | 0.03 | 0.00 | 0.04 | 0.00 | -0.04 | -0.07 | 0.07 | 0.04 |
|         | \(\Delta \sigma\) | 0.08 | -0.003 | -0.006 | -0.140 | 0.113 | 0.098 | 0.01 | 0.00 | 0.00 | -0.03 | 0.03 | 0.00 | 0.06 | 0.00 | -0.05 | -0.09 | 0.10 | 0.05 |

Note: 1. Job Satisfaction (five-choice outcome): VD: Very Dissatisfied; DS: Dissatisfied; NSD: Neither Satisfied nor Dissatisfied; SF: Satisfied (Base Category); VS: Very Satisfied 2. Work Group Performance (five-choice outcome): VP: Very Poor; P= Poor; F= Fair; G= Good (Base Category); VG= Very Good 3. Organizational Commitment (five-choice outcome): SD= Strongly Disagree; DA= Disagree; NAD= Neither Agree nor Disagree; AG = Agree (Base Category); SA= Strongly Agree. P(\(\bar{Y}\)) at mean is the average absolute discrete change; \(\Delta \)Range is change from the minimum to the maximum; \(\Delta I\) is the centered change of 1 around the mean; \(\Delta \sigma\) is the centered marginal change around the mean.
The results for the MNLM regression are supportive of hypothesis 7, which suggests that practice 3, providing support, would have a positive correlation with job satisfaction. Figure 3 shows the forecasted probabilities for the response categories of the dependent variable across the organizational practice. The forecasted probabilities for “very satisfied” and “satisfied” categories increase drastically, but not in a linear manner, by about 0.37 and 0.30, respectively, when one moves across this organizational practice range. In contrast, the forecasted probabilities for “neither satisfied nor dissatisfied” and “dissatisfied” categories reduce drastically by about 0.25 and 0.35, respectively, when one moves across the practice 3 range. The line that denotes the forecasted probabilities for the “very dissatisfied” category solely indicates a minor negative slope.

In brief, the results indicated by figures 3 and 4 suggest that practices 3 and 4 have two huge substantive impacts on job satisfaction, whereas the remaining organizational practices tend to lack any substantive effect.

The substantive scale for the correlations has been interpreted by basing on changes within the forecasted probabilities for the response categories. Another beneficial approach entails interpreting the odds coefficient ratios for the organizational practice variables (See Table 3). This odds ratio technique provides a better understanding of the correlation’s magnitude irrespective of the position on the scale across an independent variable range (Fernandez & Moldogaziev, 2013, p. 171). The correlation between practice 2 and job satisfaction is constructive and significant in size. A single unit increase within practice 2 reduces the odds for “neither satisfied nor dissatisfied” versus “satisfied” category that exists by a value of 0.83 (p<.001). Conversely for each single-unit increase within the organizational practice to
decrease job insecurity practice, the odds for “very satisfied” category versus the “satisfied”
category that exists increase by a value of 1.33, which is equivalent to (p<.001).

Practices 3 and 4 have a positive correlation with job satisfaction, with the correlation
magnitude being substantively considerable. A single-unit increase within practice 3 escalates
the odds for “very satisfied” versus “satisfied” category existing by a value of 2.79 that is
equivalent to (p<.001). Notably, an increase by a single unit within the current organizational
practice reduces the odds for “neither satisfied nor dissatisfied,” “dissatisfied”, and “very
dissatisfied” categories versus the “satisfied” category existing by a value of 0.49, 0.24, and
0.09, respectively with other variables remaining constant (p<.001). A similar trend in this final
organizational practice escalates the odds for the “very satisfied” category versus the “satisfied”
category that exists by a value of 3.28, which is equivalent to (p<.001). Seemingly, for each unit
increase within practice 4, the odds for “neither satisfied nor dissatisfied,” “dissatisfied”, and
“very dissatisfied” categories versus the “satisfied” category existing reduces by values of 0.42,
0.27, and 0.14, respectively, when everything is held constant (p<.001).

2) Work Group Performance

The MNLM results in table 3, indicates that 3 of the organizational practices- practices
1, 3 and 4 have a statistical correlation with work group performance (p<.001), whereas practice
2 does not attain a statistical importance (p=.479). For purposes of interpreting the MNLM
results, it may be inferred that the comparison response categories is “good.” Conversely, for
practices 1, 3, and 4, the substantive scale of the correlations are of significant size. In general,
for each single unit increase within any of the 4 organizational practices, the probability for
acquiring a “very poor”, “poor”, and “fair” response reduces than in the probability for acquiring
a response for the “good,” comparison category. Additionally, for each single unit increase within any of the 4 organizational practices to decrease job insecurity, the probability for acquiring a “very good” response increases than in the probability for achieving a “good” response. Essentially, the substantive impact for practice 1 is very fragile, whereas those for practices 3 and 4 are stronger. This is indicated graphically by figures 5 to 8, which show the forecasted levels for the dependent variables across the organizational practices range when other variables are kept constant in their average values (also see table 4).

The graphical presentation in figure 5 shows the job satisfaction levels in practice 1, thus provides a fairly distributive setting. According to the second hypothesis, practice 1 needs to have a positive correlation with the dependent variable. The results from the MNLM regression are supportive of this hypothesis because they show the positive correlation that exists between practice 1 and the dependent variable. The forecasted category levels for “very good” tend to rise by 0.27 where there is movement from the minimum practice 1 level to the maximum. The forecasted category levels for “fair” and “good” reduce by 0.13 and 0.12, when there is movement across the practice 1 range. These outcomes have a statistical and substantive significance. The remaining response groups indicate flat lines.

Hypothesis 5 suggests that practice 2, which offers a fair procedural setting, would have a correlation with job satisfaction. Figure 6 shows work group performance levels across practice 2, thus offering a fair procedural setting. As indicated by hypothesis 6, practice 2 ought to have a positive correlation with the dependent variable. The results from the MNLM regression do not show any apparent correlation between the current organizational practice and the dependent variable, thus dismissing hypothesis 1. Notably, all lines denoting the forecasted probabilities of
the five categories of response for the dependent variable are flat over the practice 2 ranges. Even in the presence of a minor slope (for instance, good), the size of the impact is almost zero.

The results from the MNLM regression are supportive of hypothesis 8, which suggests that practice 3, offering support would have a positive correlation with the work group performance. Figure 7 indicates the work-group performance levels across practice 3, which provides support. From the 4 organizational practices, the correlation involving practice 3 and the dependent variable is enormous in terms of substantive magnitude. The forecasted probabilities for the “very good” category increases drastically, by 0.27, when there is movement across this organizational practice range. In contrast, the forecasted probabilities for “fair” and “good” categories reduce drastically by 0.17 and 0.08, respectively, when there is movement across the practice 3 ranges. The line denoting the forecasted probabilities for the “poor” response category solely indicates a minor negative slope.
**Figure 5.** Predicted Levels of Work Group Performance, Encouragement to Subjective Job Security Practice 1 (Providing Distributive Justice Organizational Environment)

**Figure 6.** Predicted Levels of Work Group Performance, Encouragement to Subjective Job Security Practice 2 (Offering Procedural Justice Organizational Environment)

**Figure 7.** Predicted Levels of Work Group Performance, Encouragement to Subjective Job Security Practice 3 (Providing Empowerment)

**Figure 8.** Predicted Levels of Work Group Performance, Encouragement to Subjective Job Security Practice 4 (Offering Potential Growth Opportunity)
The results from the MNLM regression indicate that practice 4, which gives a potential opportunity for growth, has a positive correlation with work group performance, thus providing support to hypothesis 11, with results showing a similarity with those of practice 3. Figure 8 indicates the forecasted probabilities for the dependent variables’ response categories across practice 4. The forecasted probabilities for the “very good” categories escalate by 0.13 when there is movement across this organizational practice range (practice 4). In contrast, the forecasted probabilities for “fair” categories reduce by 0.10 when there is movement across the practice 4 range. The line denoting the forecasted probabilities for the “poor” and “good” response category, solely indicate a minor negative slope. In brief, the outcomes indicated by figures 5 and 7 suggest that practices 1 and 3 contain the two biggest substantive impacts on work group performance, whereas the remaining organizational practices tend to lack any substantive impact.

To help in interpreting the MNLM results, the coefficients of the odds ratio for the organizational (Table 3). Because practice 4 lacks virtually any substantive impact on the dependent variable, the coefficients of the other two organizational practices of reducing job insecurity (practices 1 and 3) have been explored.

Notably, a positive correlation involving practice 1 and work group performance exists with a substantively considerable size. An increase in units for this organizational practice results in an increase in the response category odds for “very good” versus “good” category existing by a value of 1.33, with other variables remaining constant (p<.001). Conversely, for each single-unit increase in the current organizational practice, the odds for “fair” and “very poor” category versus “good” category that exists reduce by a value of 0.73 and 0.40, respectively, with other variables remaining constant (p<.001). Notably, practice 3 has a positive correlation with work group performance, with the correlations magnitude being substantively considerable. A single unit increment within practice 3 leads to an increase in the odds for the “very good” versus
“good” categories that exists by a value of 1.1, which is equivalent to (p<.001). Conversely, an increase in unit for this organizational practice reduces the odds for “fair,” “poor,” and “very poor categories versus “good” category, which exists by values of 0.66, 0.46, and 0.23, respectively, with the other variables remaining constant (p<.001).

3) Organizational commitment

The MNLM results in table 3 indicates that three out of the four organizational practices namely practices 2, 3 and 4 have a statistical correlation with organizational commitment (p<.001), whereas practice 1 does not attain any statistical significance (p=.108). Notably, for interpretation of the MNLM results, the comparison response group is “agree.” Seemingly, for practices 2, 3 and 4, the substantive scale for the correlations are significant. In general, for each single-unit increment within any of the 4 organizational practice variables, the possibility of achieving a “strongly disagree”, “disagree”, and “neither agree nor disagree” response declines compared to the possibility of achieving an “agree,” response for the comparison group. Conversely, for each single unit increment within any of the 4 organizational practices, the possibility of achieving a “strongly agree” response increases compared to the possibility of achieving an “agree.” Seemingly, the substantive impact for practice 2 is very fragile, whereas those ones for practices 3 and 4 tend to be stronger. This trend is indicated graphically by figures 9 to 12 that show the forecasted dependent variable levels across the organizational practices ranges, with the remaining variables remaining constant in the average values (table 4).

Figure 9 shows the job organizational commitment levels across practice 1, offering fair distributive organizational setting. As indicated by hypothesis 3, a positive correlation should exist between practice 1 and the dependent variable. The results from the MNLM regression do
not indicate any correlation between the current organizational practice and the dependent variable.

Figure 10 shows the forecasted probabilities involving the response categories of the dependent variables across the present organizational practices. Additionally, the forecasted levels for “strongly agree” and “agree” category escalates by 0.13 and 0.09, respectively, when there is movement from the minimum practice level towards the highest. The forecasted levels for “neither agree nor disagree” category reduce by 0.16 when there is movement across the practice 2 ranges. The alterations within “strongly disagree” and “disagree” categories are statistically considerable, however, are substantively closer to nothing.

The results from the MNLM regression are supportive of hypothesis 9, which suggests that practice 3, that provides support, will have a positive correlation with organizational commitment. Figure 11 indicates the forecasted probabilities for the response categories of the dependent variable across the current organizational practice. From the 4 organizational practices, the correlation involving practice 3 and the dependent variable has the largest substantive magnitude. The forecasted probabilities for “strongly agree” and “agree” categories escalate drastically, but not in a linear manner, by 0.42 and 0.20, respectively, when there is movement over the range for the current subjective job security practice. In contrast, the forecasted probabilities for “neither agree nor disagree” and “disagree” categories reduce drastically by 0.37 and 0.19, respectively, when there is movement across the practice 3 range. The line denoting the forecasted probabilities for the “strongly disagree” response category solely indicates a minor negative slope.

The results for the MNLM regression indicate that practice 4, that provides an opportunity for potential growth, has a positive correlation with organizational commitment, thus complementing hypothesis 12, with the outcomes showing a similarity to those of practice 3. Figure 4 shows the
forecasted probabilities for the dependent variables’ response categories across practice 4. The forecasted probabilities for “strongly agree” and “agree” categories escalate drastically, but not in a linear pattern, by 0.31 and 0.20, respectively, when there is movement across the current organizational practice range. In contrast, the forecasted probabilities for “neither agree nor disagree” and “disagree” categories reduce drastically by 0.28 and 0.20, respectively, when there is movement across the practice 4 range. The line that denotes the forecasted probabilities for “strongly disagree” response category solely indicates a minor negative slope.

In other words, the outcomes indicated in figures 10 and 11 suggest that practices 3 and 4 contain the two enormous substantive impacts on organizational commitment, whereas the remaining two organizational practices tend to lack any substantive impact. For assistance in interpreting the MNLM outcomes, the coefficients of the odds ratio for organizational practices have been interpreted (table 3).
Figure 9. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job Security Practice 1 (Providing Distributive Justice Environment)

Figure 10. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job Security Practice 2 (Offering Procedural Justice Organizational Environment)

Figure 11. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job Security Practice 3 (Providing Empowerment)

Figure 12. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job Security Practice 4 (Offering Potential Growth Opportunity)
Notably, practices 2, 3 and 4 have a positive correlation with organizational commitment; the correlation’s magnitude is substantively significant. A single-unit increment within practice 2 escalates the odds for “strongly agree” versus “agree” category existing by a value of 1.3, which is equivalent to (p<.001). Conversely, a unit increment in this organizational practice reduces the odds for “neither agree nor disagree,” “disagree”, and “strongly disagree” categories versus “agree” category by values of 0.8, 0.78, and 0.63, respectively, with all remaining variables remaining constant (p<.001). A similar trend within organizational practice 3 escalates the odds for “strongly agree” category versus “agree” category existing by a value of 2.32, which is equivalent to (p<.001). Moreover, for each unit increment within practice 3, the odds for “neither agree nor disagree,” “disagree”, and “strongly disagree” categories versus “agree” category that exists reduces by values of 0.52, 0.41, and 0.19, respectively, with other variables held constant (p<.001). Similarly, a single-unit increment within practice 4 escalates the odds for “strongly agree” category versus “agree” category that exists by a value of 1.9. Seemingly, for each single-unit increment within this organizational practice, the odds for “neither agree nor disagree,” “disagree”, and “strongly disagree” categories versus “agree” category that exists reduce by values of 0.63, 0.46, and 0.36, respectively, which is equivalent to (p<.001).

**Post-hoc Analysis (Moderating Effect)**

This study also investigates how various level of dependence impact the employee work attitudes and behavior of the federal workers such as the performance, job satisfaction and commitment in the organization. According to the Greenhalgh and Rosenblatt (1984) job insecurity framework, the experience of job insecurity can be moderated by demographic characteristics such as individuals’ dependencies on their current job, and that dependence arises when individuals’
skills are in low demand in the labor market or individuals face high fixed obligations. On the basis of Greenhalgh and Rosenblatt framework, it is reasonable to assume that non-supervisory group (frontline employee) will show a high level of dependencies on their current job, while supervisory group (supervisor and executive) can be regarded low level of dependencies on their current job. Thus, I hypothesized that the effect of four organizational practices to increase perception of job security (practice 1- practice 4) are assumed to vary depending on the value of individuals’ dependencies on their current jobs (non-supervisory group vs. supervisory group). To allow this possibility, I add the interaction of practice 1-4 and position status (non-supervisory group vs. supervisory group).

The ordered logit model (OLM) results for the test for interaction effects among the four job organizational practices and supervisory status are presented in Table 5. Firstly, for the job satisfaction dependent variable case, the results presented in model 2 and model 3 show the interactions between practice 2, providing procedural justice, and supervisory status, as well as practice 3, offering empowerment, and supervisory status are significant (p<.05). Secondly, for I hypothesize that the probability of employee positive work behavior when presented with the organizational practices will be greater when the employee has a low dependency rather than high dependency. Within linear regression models such as ordinary least squares (OLS), the conventional way to examine such relationships is by testing whether the estimated coefficient of the interaction of organizational practice and dependency level is significantly different from zero (Mahony and Klass, 2008 p. 231; Baron & Kenny, 1986; Whisman & McClelland, 2005). Unlike in OLS, in nonlinear models such as OLM, OPM, and MNLM the effect of the interaction is a function of not only the coefficient for the interaction, but also the coefficients for each interacted variable and the values of all the variables (Hoetker 2005. P. 336; Ai&Norton, 2003; Allison, 1999; Mahony and Klass, 2008 p. 231). Thus, the interaction effect cannot be evaluated simply by looking at the sign, magnitude, or statistical significance of the coefficient on the interaction term when the model is nonlinear (Ai & Norton, 2003. P.129; Hoetker, 2007 p.335). In addition, the significance of the interaction effect cannot be determined just by the significance of the interaction coefficient. There can be a significant interaction effect for some observations even if the interaction coefficient is not significant. Conversely, even if the interaction coefficient is significant, there may not be a significant effect from some observations. (Hoetker, 2007 p.336). The appropriate method to examine interaction effects in nonlinear models where interacted variable is dichotomous is by computing changes in the predicted probability for a given level of the dependent variable for discrete changes in the interacted variables and their interaction (Long & Freese, 2006). To compute these effects, I followed the procedures outlines in Long and Freese (2006). The first step calls for the estimation of the model with the interactions included. The interaction effects were then examined by computing the marginal change in the probability of work behavior outcome when the interacted variable and the interaction term changes from 0 to 1 holding all other values at their mean. The results are then presented as a change in the marginal probability for a given level of the dependent variables.
the work group performance dependent variable case, the results showed in model 7 and model 8 present the interactions between practice 3, providing empowerment, and supervisory status, as well practice 4, offering potential growth opportunity, and supervisory status (dependency level) are significant (p<.05 and p<.001, respectively). However, for the organizational commitment dependent variable case, all possible two-way interactions (practice1x dependency, practice2xdependency, practice3xdependency, and practice4xdependency) fail to achieve statistical significance (p=.96, p=.55, p=.24, p=.59, respectively).

At first, I was puzzled by the manner I which the four sets of organizational practices rely on the value of another independent variable that is moderator. The moderating effect implies that the impact of practice 1 and practice 2 (on job satisfaction), as well as practice 3 and practice 4 (on work group performance) differ by dependence level. Nevertheless, the interaction coefficient cannot be the sole determinant of the significance of interaction impact. Even when the interaction coefficient is not important, some observations might have significant interaction impact. Equally, there may be no significant impact from some observation even if the coefficient of interaction is significant (Hoetker 2007, p.336). Therefore, I focused on the distinct change discretely for low dependency group (=supervisory group) and high dependency group (non-supervisory group) and calculated dependency differences (position differences) in distinct change with interaction. Through this process, I can measure how the effect of four organizational practices is varied depending on the value of another independent variable. The results for the moderating effect of dependency type (=Supervisory Status) are presented in Table 6 as changes in the marginal probability of employee work behaviors and attitude of the federal employee. The reported probabilities were computed using the method outlined above and are based on the model presented in Table 6.
Table 5. Logit coefficients for Ordered Logit Model (ORM) with Interaction Effect, N=8206

<table>
<thead>
<tr>
<th>Variable Description</th>
<th>Dependent Variable: Job Satisfaction</th>
<th>Dependent Variable: Work Group Performance</th>
<th>Dependent Variable: Organizational Commitment</th>
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<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 3</td>
</tr>
<tr>
<td>Practice 1 (Distributive Justice)</td>
<td>0.09</td>
<td>0.06</td>
<td>0.06</td>
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<td>Practice 2 (Procedural Justice)</td>
<td>0.24***</td>
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<td>0.24***</td>
</tr>
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<td>Practice 3 (Empowerment)</td>
<td>1.25***</td>
<td>1.25***</td>
<td>1.32***</td>
</tr>
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<td>Practice 4 (Potential Growth Opportunity)</td>
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<td>1.21***</td>
<td>1.20***</td>
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<td>Minority</td>
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<td>0.13**</td>
<td>0.13**</td>
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<td>Supervisory status</td>
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<td>0.15***</td>
<td>0.15**</td>
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<tr>
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<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>Practice2 x Supervisory Status</td>
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<td>-0.08</td>
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<td>Practice3 x Supervisory Status</td>
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<td>Practice4 x Supervisory Status</td>
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<td>0.03</td>
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Standard errors are in parentheses. *P<.05. **p<.01. ***p<.001.
Firstly, for job satisfaction, the largest difference in the discrete change between the dependency levels is for the probability of answering "very satisfied". For both manager group (low dependency) and frontline group (high dependency), an increase in encouragement to organizational practice 2, providing procedural justice, from lowest to highest level increases the probability of “very satisfied”, but the increase is 0.04 for nonsupervisory group (high dependency) and 0.06 for supervisor group. Conversely, for both manager group (low dependency) and frontline group (high dependency), an increase in organizational practice 3, offering empowerment, from lowest to highest level increases the probability of “very satisfied”, but the increase is 0.35 for supervisory group (low dependency) and 0.37 for non-supervisor group. In addition, for both manager group (low dependency) and frontline group (high dependency), an increase in organizational practice 4 to, providing potential growth opportunity, from lowest to highest level increases the probability of “very satisfied”, but the increase is 0.33 for supervisory group (low dependency) and 0.34 for non-supervisor group.
Table 6. The Probability of Federal Employee Work Behavior and Attitudes by Dependency level

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Supervisory Status</th>
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<th>95%CI</th>
<th>95%CI</th>
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<td>[ -.0623 .0312]</td>
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<td>0.0607 [.0088 .1302]</td>
<td>[.113** [.0305 .1962]</td>
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<td>0.0873** [.0794 .1445]</td>
<td>[.3175** [.2699 .3652]</td>
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<td>Low Dependency</td>
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<td>0.001 [.225 .0699]</td>
<td>0.0607 [.0088 .1302]</td>
</tr>
<tr>
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<td>High Dependency</td>
<td>0.297** [.2235 .3709]</td>
<td>0.0607 [.0088 .1302]</td>
<td>[.113** [.0305 .1962]</td>
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<td>0.95% CI</td>
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<tr>
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<td></td>
<td>0.358** [.3141 .4022]</td>
<td>0.373** [.3321 .4150]</td>
<td>0.066** [.0305 .1962]</td>
</tr>
<tr>
<td></td>
<td>Low Dependency</td>
<td>0.113** [.0878 .1302]</td>
<td>0.368** [.3056 .4320]</td>
<td>0.258** [.2025 .3056]</td>
</tr>
<tr>
<td></td>
<td>High Dependency</td>
<td>0.3175** [.2699 .3652]</td>
<td>0.3638** [.3218 .4055]</td>
<td>0.2341** [.1955 .2727]</td>
</tr>
<tr>
<td>Practice4</td>
<td></td>
<td>0.358** [.3141 .4022]</td>
<td>0.373** [.3321 .4150]</td>
<td>0.066** [.0305 .1962]</td>
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<tr>
<td></td>
<td>Low Dependency</td>
<td>0.113** [.0878 .1302]</td>
<td>0.368** [.3056 .4320]</td>
<td>0.258** [.2025 .3056]</td>
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<tr>
<td></td>
<td>High Dependency</td>
<td>0.3175** [.2699 .3652]</td>
<td>0.3638** [.3218 .4055]</td>
<td>0.2341** [.1955 .2727]</td>
</tr>
</tbody>
</table>

Note: CI=confidence interval. The marginal change in Pr(y) is the change in the probability of dependent variable (Job Satisfaction, Job Performance, and Organizational Commitment) associated with discrete change in the predictor variable when all other predictors are at their mean level.

**p<.05

Secondly, for work group performance case, the largest difference in the discrete change between the dependency levels is for the probability of answering "very good". For both manager group (low dependency) and frontline group (high dependency), an increase in organizational practice 1, providing distributive justice, from lowest to highest level increases the probability of "very good", but the increase is 0.29 for nonsupervisory group (high dependency) and only 0.22 for supervisor group. Conversely, for both manager group (low dependency) and frontline group (high dependency), an increase in organizational practice 4, offering potential growth opportunity, from lowest to highest level increases the probability of "very good," but the increase is 0.10 for supervisory group (low dependency) and 0.25 for non-supervisor group (high dependency).
Lastly, for organizational commitment, the largest difference in the discrete change between the dependency levels is for the probability of answering "strongly agree". For both manager group (low dependency) and frontline group (high dependency), an increase in organizational practice 2, providing procedural justice, from lowest to highest level increases the probability of “strongly agree”, but the increase is 0.08 for nonsupervisory group (high dependency) and only 0.11 for supervisor group. Similarly, for both manager group (low dependency) and frontline group (high dependency), an increase in organizational practice 4, offering potential growth opportunity, from lowest to highest level increases the probability of “strongly agree”, but the increase is 0.25 for supervisory group (low dependency) and 0.23 for non-supervisor group (high dependency). Conversely, for both manager group (low dependency) and frontline group (high dependency), an increase in organizational practice 3, providing empowerment, from lowest to highest level increases the probability of “strongly agree”, but the increase is 0.31 for supervisory group (low dependency) and 0.36 for non-supervisor group (all reported changes in the marginal probabilities were within the 95% confidence intervals).
PART II. State of Georgia Analysis

Data and Method

This analysis investigates the connection between a set of organizational virtues to elevate the workers’ insight of towards job security, contentment and organizational dedication in state government. I followed the same process as the one used by Fernandez and Moldogaziev (2011 & 2013) to conduct the analysis. The three organizational practices are offering a distributive justice (practice 1); providing a procedural justice (practice 2); providing a potential growth opportunity (practice 3). The unit of analysis focused on individual workers of Georgia State Government who participated in the survey carried out in the year 2000 that was intended to assess the perception of changes in the civil service system due to the policies enacted in the year 1996 and GeorgiaGain

The model of job satisfaction and organizational commitment that are tested is

\[\text{Job satisfaction} = f(\text{practice1, practice2, practice3, gender, age, race, work years of state government, education, work years of position, position}).\]

\[\text{Organizational Commitment} = f(\text{practice1, practice2, practice3, gender, age, race, work years of state government, education, work years of position, position}).\]

I hypothesized the three organizational practices to be positively linked with organizational dedication and contentment.
**Dependent Variables**

The study investigates two dependent variables namely job satisfaction and organizational commitment. Job satisfaction is weighed using the feedback following statement and indicators: “You are satisfied by your job”. “I like my job” the response categories range from 1 = *strongly disagree* to 6 = *strongly agree*. Approximately 2% of respondents answered “strongly disagree”; 5% of respondents answered “disagree”; 3% of respondents answered “neither slightly disagree”; 13% of respondents answered “slightly agree”; 46% of respondents answered “agree”; 31% of respondents answered “strongly agree”. The other dependent variable which is organizational commitment is weighed using the feedback from the following statement and feedback from the survey. My agency is a good place to work” the respond categories range from 1 = *strongly disagree* to 6 = *strongly agree*. Approximately 17% of respondents answered “strongly disagree”; 14% of respondents answered “disagree”; 12% of respondents answered “neither slightly disagree”; 23% of respondents answered “slightly agree”; 25% of respondents answered “agree”; 9% of respondents answered “strongly agree”. All these two dependent variables are a perceptual measure based on the ratings of internal stakeholders (Fernandez and Moldogaziev 2011).

**Independent Variables and Control Variables**

Organizational practices are represented by independent variables - practice 1, practice 2 and practice 4. As can be seen in Appendix D, every scale of the survey items emerge to be weighing the managerial behavior depicted by empowerment, job security, organizational training and organizational fairness literature. The descriptive statistics for these variables and
control variables are shown in Table 7. A set of control variables are incorporated in the model used which includes a dummy variable that confirms the participant’s gender and other socio-economic status (See Appendix E).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice 1 (Distributive Justice)</td>
<td>3.556</td>
<td>1.61</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Practice 2 (Procedural Justice)</td>
<td>3.861</td>
<td>1.55</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Practice 4 (Potential Growth Opportunity)</td>
<td>2.712</td>
<td>1.48</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Gender</td>
<td>1.614</td>
<td>0.49</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Age</td>
<td>3.337</td>
<td>0.75</td>
<td>1</td>
<td>5</td>
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<tr>
<td>Race</td>
<td>1.477</td>
<td>0.81</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Work Years_Sate Gov</td>
<td>3.985</td>
<td>1.51</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Education</td>
<td>3.649</td>
<td>1.50</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Work Years_Position</td>
<td>2.935</td>
<td>1.30</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Position</td>
<td>1.424</td>
<td>0.61</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Note. Sample size=1234 (Georgia State Government). Sample restricted to 841 valid observations, or 68% of the original sample. Source: 2000 Georgia Gain Survey

Data

The analysis makes use of data derived from survey called GeorgiaGain that was carried out by Professor Edward Kellough and Lloyd Nigro. The perception of worker job security affects Georgia state government that experience low levels of job security that results from the reforms in the civil service system due to the policies enacted in the year 1996 and GeorgiaGain. The reform in policies promoted state’s the system of at-will employment. The policies suggest that an employee may be terminated from his job without any reason (Kellough & Nigro, 2006).

A study on Georgia state employees was carried out so as to get information on the view of basic elements of the GeorgiaGain and the transformation of the 1996 legislation during the
original quarter of the year 2000. The study was carried out by Kellough and Nigro. Opportunity was granted to more than two thousand, nine hundred and ninety-four workers to total the 2000 survey. Close to 1,948 workers took part and gave their views regarding the various fields related to the 1996 transformation of the civil service and GeorgiaGain. The overall rate of response was 68%. The organizational practices notion specifically applies to those workers who felt restricted to security and job protection. Workers of the state government involved in this survey were going through stressors which were related to the transition of the 1997 GeorgiaGain civil service, for instance the change of the rule on job security. They were also experiencing low job security protections. State government workers in this study were experiencing stressors associated with 1997 GeorgiaGain civil service reform process such as job security rule change and they were experiencing inferior levels of work security protections. The focal point of the study is, therefore, on those employees who responded the question “Because of the civil service reform law (Act 816), I believe that now there is no job security in state employment”: employee who respond slightly agree, agree and strongly agree; employee who respond neither agree nor disagree, slightly disagree, and strongly disagree are excluded from the analysis. From the survey conducted above, 1,234 workers felt that there was no job security. Through above process, the 2000 GeorgiaGain Survey contains 1,234 observations for workers who felt no job security. 841 or 68% of the number were included the final analysis while the rest of the remaining remarks were left out due to some missing information on the independent, dependent or control variables. The descriptive statistics for these remaining observations are showing in Appendix F.
Model Selection and Fit Tests

An ordinal indicator is used to weigh the dependent variables that include job satisfaction and organizational commitment. Biased coefficients and inaccurate results will be achieved if the regression of ordinary least square (OLS) is used to assess the dependent variable (Long, 1997; Long & Freese, 2006). In this study four types of competing equations using ordinary least squares (OLS), ordered logit model (OLM), ordered probit model (PM), and multinomial logit model (MLNM) regression were evaluated. This model included ordered logit model, ordered probit model OLS and multinomial logit model. After a thorough examination on the results of

For the model selection and fit test, I used the same procedure as those employed by Fernandez and Moldogaziev (2011, p. 30-31 & 2013). For the job satisfaction variable case, the conventional fit statistics such as the Ailaike’s information criterion (AIC) and the Bayesian information criterion (BIC) scalars propose that OLM offers a better fit for the data (Table 8). The absolute value of the difference between these statistics for OLM in contrast to OLS, PM, and a MNLM specification is large; the OLM approximations are significantly and adequately smaller. The likelihood ratio \( \chi^2 \) coefficients for the MNLM proposes a better fit than the ordinary least squares, ordered logit, and ordered probit specifications of the dependent variable. Lastly, the four \( R^2 \) coefficients reported (McFardden’s, Cox-Snell’s McKelvey and Zavoina’s and Cragg-Uhler’s) point out that multinomial logit functional form of job satisfaction results to slightly better results than the OLM and PM.

Similarly, for the organizational commitment variable case, the conventional fit statistics such as the Ailaike’s information criterion (AIC) and the Bayesian information criterion (BIC) scalars suggest that OLM provides a better fit for the data (Table 8). The absolute value of the difference between these statistics for OLM in contrast to OLS, PM, and MNLM specifications is large; the OLM estimates are significantly and sufficiently smaller. The likelihood ratio \( \chi^2 \) coefficient for the MNLM suggests a better fit than the ordinary least squares, ordred logit, and ordered probit specifications of the dependent variable. Finally, the four the four \( R^2 \) coefficients reported (McFardden’s, Cox-Snell’s McKelvey and Zavoina’s and Cragg-Uhler’s) indicate that multinomial logit functional form of job satisfaction produces slightly better results than the OLM and PM. In short, the evidence at had from generic tests of fit appears to point to the OLM or MNLM model as the preferred specification for three limited dependent variables, even though the \( R^2 \) scores are not particularly helpful in tipping the scales in favor of any single specification. The OLM model estimation is based on the rationale of proportional odds or parallel regression equations. This model presumes that the underlying intervals between the closest categories of the outcome variable are equal. Consequently, it is presumed that a change in the explanatory variable results in an identical slope coefficient irrespective of the value of an outcome category. With coefficients of the effects unchanged, the only statistic that changes is the intercept (Fernandez and Moldogaziev 2011, p.30). A violation of the assumption of parallel regression when using ordered logit model (OLM) estimations may generate flawed outcomes and lead to incorrect conclusions, representing the need to use a multinomial logit specification (Long, 1997; Long & Freese, 2006). Therefore, the next step in establishing the proper fit for the data is concluding whether the OLM estimates violate the primary assumption of parallel regression. The Brant test of parallel regression assumption is conducted to acquire such fact. The outcome proposes that the three organizational practice variables taken together violate the supposition of parallel regression. For the job satisfaction variable case, when taken individually, none of the three organizational practice variables and control variables in the model passes the parallel regression test. The overall model fails the test with a \( \chi^2 \) coefficient of 52.68, therefore indicating that a multinomial specification should be selected instead of the OLM. Second, for the organizational commitment variable case, when taken individually, none of the four perceived job security variables in the model passes the parallel regression test. Only education
the four regression model, these results pointed out that the best model specification for job satisfaction and organizational commitment of the workers is the multinomial logit model (Table 8).

level variable passes the Brant test, with the other control variables failing this test quite significantly (p<.001). The overall model fails the test with a $\chi^2_{df=40}$ coefficient of 63.57, hence indicating that a multinomial specification should be selected instead of the OLM. When the supposition of parallel regressions is rejected, substitute models should be considered that do not inflict the constraint of parallel regressions (Long 1997, p.145). In other words, these results point to the multinomial logit model of job satisfaction and organizational commitment as the best model.
<table>
<thead>
<tr>
<th>Variable Description</th>
<th>Dependent Variable: Job Satisfaction</th>
<th>Dependent Variable: Organizational Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OLS</td>
<td>ORM</td>
</tr>
<tr>
<td>Practice 1 (Distributive Justice)</td>
<td>0.054*</td>
<td>0.094*</td>
</tr>
<tr>
<td></td>
<td>(0.026)</td>
<td>(0.045)</td>
</tr>
<tr>
<td>Practice 2 (Procedural Justice)</td>
<td>-0.135***</td>
<td>-0.203***</td>
</tr>
<tr>
<td></td>
<td>(0.027)</td>
<td>(0.048)</td>
</tr>
<tr>
<td>Practice 3 (Potential Growth Opportunity)</td>
<td>0.115***</td>
<td>0.211***</td>
</tr>
<tr>
<td></td>
<td>(0.027)</td>
<td>(0.048)</td>
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<tr>
<td>Gender</td>
<td>-0.088</td>
<td>-0.062</td>
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<tr>
<td></td>
<td>(0.079)</td>
<td>(0.136)</td>
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<tr>
<td>Age</td>
<td>0.104</td>
<td>0.215*</td>
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<td></td>
<td>(0.057)</td>
<td>(0.098)</td>
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<td>-0.004</td>
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<td></td>
<td>(0.047)</td>
<td>(0.081)</td>
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<td>Work Years Sate Gov</td>
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<td>(0.034)</td>
<td>(0.059)</td>
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<td></td>
<td>(0.026)</td>
<td>(0.044)</td>
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<td>Work Years Position</td>
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<tr>
<td></td>
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<td>(0.651)</td>
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<td>Position</td>
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<td></td>
<td>(0.7)</td>
<td>(0.12)</td>
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<td>AIC</td>
<td>3.037</td>
<td>2.565</td>
</tr>
<tr>
<td>Likelihood ratio $\chi^2$</td>
<td>90.878</td>
<td>88.819</td>
</tr>
<tr>
<td>McFadden's $R^2$</td>
<td>-</td>
<td>0.04</td>
</tr>
<tr>
<td>ML (Cox-Snell) $R^2$</td>
<td>-</td>
<td>0.1</td>
</tr>
<tr>
<td>McKelvey and Zavoina's $R^2$</td>
<td>-</td>
<td>0.112</td>
</tr>
<tr>
<td>Cragg-Uhler's (Nagelkerke) $R^2$</td>
<td>-</td>
<td>0.108</td>
</tr>
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</table>

Note. AIC = Akaike's information criterion; BIC = Bayesian information criterion; ML = Maximum likelihood; *P<.05, **P<.01, ***P<.001.
Table 9. Logit coefficients for Multinomial Logit Model, Dependent Variable= Job Satisfaction; Organizational Commitment

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Statistic</th>
<th>Dependent Variable: Job Satisfaction</th>
<th>Dependent Variable: Organizational Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Logit Coefficient for Dimensions of Organizational Practices to reduce Job insecurity</td>
<td>Comparison</td>
<td>Statistic</td>
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<tr>
<td>SD</td>
<td>A</td>
<td>$\beta_{(SD</td>
<td>A)}$</td>
</tr>
<tr>
<td></td>
<td>exp$_{(SD</td>
<td>A)}$</td>
<td>0.849</td>
</tr>
<tr>
<td></td>
<td>$z$</td>
<td>-1.028</td>
<td>2.688</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>0.304</td>
<td>0.007</td>
</tr>
<tr>
<td>D</td>
<td>A</td>
<td>$\beta_{(D</td>
<td>A)}$</td>
</tr>
<tr>
<td></td>
<td>exp$_{(D</td>
<td>A)}$</td>
<td>0.891</td>
</tr>
<tr>
<td></td>
<td>$z$</td>
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<td></td>
<td>$p$</td>
<td>0.308</td>
<td>0.000</td>
</tr>
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<td>SLD</td>
<td>A</td>
<td>$\beta_{(SLD</td>
<td>A)}$</td>
</tr>
<tr>
<td></td>
<td>exp$_{(SLD</td>
<td>A)}$</td>
<td>1.026</td>
</tr>
<tr>
<td></td>
<td>$z$</td>
<td>0.185</td>
<td>2.042</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>0.853</td>
<td>0.041</td>
</tr>
<tr>
<td>SLA</td>
<td>A</td>
<td>$\beta_{(SLA</td>
<td>A)}$</td>
</tr>
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<td></td>
<td>exp$_{(SLA</td>
<td>A)}$</td>
<td>0.903</td>
</tr>
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<td></td>
<td>$z$</td>
<td>-1.364</td>
<td>2.030</td>
</tr>
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<td>$p$</td>
<td>0.172</td>
<td>0.042</td>
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<tr>
<td>SA</td>
<td>A</td>
<td>$\beta_{(SA</td>
<td>A)}$</td>
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<td></td>
<td>exp$_{(SA</td>
<td>A)}$</td>
<td>1.062</td>
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<td></td>
<td>$z$</td>
<td>1.045</td>
<td>-0.219</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>0.296</td>
<td>0.826</td>
</tr>
</tbody>
</table>

Note: 1. Job Satisfaction and Organizational Commitment (six-choice outcome): SD: Strongly Disagree; D: Disagree; SLD: Neither Slightly Disagree; SLA: Slightly Agree; A: Agree (Base Category); SA: Strongly Agree (five-choice outcome): SD=Strongly Disagree; DA=Disagree; NAD=Neither Agree nor Disagree; AG=Agree (Base Category); SA=Strongly Disagree. $\beta$ is the logit coefficient, exp($\beta$) is the factor change; $z$ is the $z$-statistic, $p$ is the significance level.
Results

1) Job Satisfaction

The MNLM results in table 9, indicate that one organizational practice-practice 2 has a statistical correlation with job satisfaction (p<.05), whereas practices 1 and 4 do not attain a statistical significance (p=.304 and 0.26). The MNL coefficients indicated in table 3 exist within the expected directions. Notably, for interpretation of the MNLM results, the category for comparative response is “agree.” Furthermore, for practice 2, the correlation for the substantive scale is of significant size. This is presented graphically by figures 1 to 3, which shows the forecasted dependent variable levels across the four organizational practice ranges, with the remaining variables being held constant in the average values (table 10).

Figure 1 shows the job satisfaction levels across practice 1, offering a fair distributive organizational setting. As indicated by hypothesis 1, practice 1 ought to have a positive correlation with the dependent variable, thus the hypothesis is dismissed. All lines that denote the forecasted probabilities of the six categories for the dependent variable response are flat over the practice 1 range. Even when there is a minor slope (for instance, strongly agree), the scale of the impact is almost zero.

According to hypothesis 4, practice 2 that provides fair procedural organizational setting, will have a correlation with job satisfaction, the correlation pattern might be positive. This question (this item = practice 2) has been constructed negatively. Therefore, if participants respond with “strongly disagree or disagree” instead of answering, “strongly agree” to the same negative question, then it may be imperative to interpret that practice 2 has a positive correlation with the dependent variable. The results from the MNLM regression are supportive of this
hypothesis because they suggest the positive correlation that exists between practice 2 and the dependent variable. In general, for each single-unit increment within practice 2, the probability for achieving a “strongly disagree”, “disagree”, “neither slightly disagrees”, and “slightly agree” response escalates than in the probability for achieving an “agree” response in the comparative category. Conversely, for each single-unit increment within practice 2, the probability for achieving a “strongly agree” reduces compared to the possibility for achieving an “agree” response. This implies that an increment within practice 2 increases the possibility of achieving the “strongly disagree (=SD)” outcome and reduces the likelihood of observing the “strongly agree (=SA)” outcome. Such correspondence towards the positive sign for the $\beta_{SDVA} (=0.571)$ coefficient as well as the negative sign for the $\beta_{SAVA} (= -0.013)$ exists. Figure 2 shows the forecasted probabilities for the response categories of the dependent variable across the current organizational practice towards reduction of job insecurity. The forecasted probabilities for “strongly disagree”, “disagree”, “neither slightly disagrees,” and “slightly agree” categories escalate considerably by 4 percent, 7 percent, 3 percent and 7 percent respectively, when there is movement across the practice 2 range. Seemingly, the forecasted probabilities for “strongly agree” and “agree” categories reduce by nearly 9 percent and 11 percent across the practice 2 range. The results from the MNLM regression were not supportive of hypothesis 10, which suggests that practice 4, offering an opportunity for potential growth, will have a positive correlation with job satisfaction. Additionally, all lines denoting the forecasted probabilities for the six categories of dependent variable response exhibit a flat trend across the practice four ranges. Even in the presence of a minor slope (for instance, strongly agree), the scale of the impact would be close to zero.
Table 10. Discrete Change in the Probability of Job Satisfaction, and Organizational Commitment for Multinomial Logit Model (all other Variables Held at Mean Values)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Change</th>
<th>Dependent Variable: Job Satisfaction</th>
<th>Dependent Variable: Organizational Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Overall Practice 1 (Clear Expectancy)</td>
<td>Pr(Y at mean)</td>
<td></td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>ΔRange</td>
<td>0.03</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>Δl</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Δσ</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Practice 2 (Fair Treatment)</td>
<td>ΔRange</td>
<td>0.07</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td>Δl</td>
<td>0.02</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Δσ</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Practice 4 (Potential Growth Opportunity)</td>
<td>ΔRange</td>
<td>0.06</td>
<td>-0.02</td>
</tr>
<tr>
<td></td>
<td>Δl</td>
<td>0.02</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>Δσ</td>
<td>0.01</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Note: 1. Job Satisfaction, and Organizational Commitment (six-choice outcome): SD: Strongly Disagree; D: Disagree; SLD: Neither Slightly Disagree; SLA: Slightly Agree; A: Agree (Base Category); SA: Strongly Agree. ΔRange is change from the minimum to the maximum; Δl is the centered change of l around the mean; Δσ is the centered marginal change around the mean.
Figure 1. Predicted Levels of Job Satisfaction, Encouragement to Subjective Job Security Practice 1 (Providing Distributive Justice Organizational Environment)

Figure 2. Predicted Levels of Job Satisfaction, Encouragement to Subjective Job Security Practice 2 (Offering Procedural Justice Organizational Environment)

Figure 3. Predicted Levels of Job Satisfaction, Encouragement to Subjective Job Security Practice 3 (Providing Potential Growth Opportunity)
In other words, the results indicated by figure 2 suggest that practice 2 contains the biggest substantive impacts over job satisfaction, whereas the remaining organizational practices (practices 1 and 4) tend to lack any substantive impact. Practice 2 has a positive correlation with job satisfaction, with correlations magnitude being substantively considerable.

To aid in interpreting the MNLM results, the coefficients of the odds ratio for the organizational practices that decrease the variables for job insecurity are examined (Table 3). This odds ratio technique provides a better understanding of the correlation magnitude irrespective of the position on the scale across the independent variable range (Fernandez and Moldogazie 2012, p. 171).

A single unit increment within practice 2 reduces the odds for “strongly agree” category versus “agree” category that exists by a value of 0.98. Notably, a unit increment within this encouragement for organizational practice escalate the odds for “slightly agree”, “neither slightly disagree”, “slightly disagree”, and “strongly disagree” categories versus “agree” category that exists by values of 1.18, 1.37, 1.68, and 1.76 respectively, with the remaining variables held constant.

2) Organizational Commitment

The MNLM results in table 9 indicates that all organizational practices have a statistical correlation with organizational commitment (p<.05). However, the MNLM coefficients illustrated by table 3 do not exist within the expected directions. For interpretation of the MNLM results, it is worth noting that the category for comparative response is “agree.” Moreover, for practices 2 and 4, the correlation’s substantive magnitude is significant. This is indicated in
graphical form by figures 7 to 9, which show the forecasted dependent variable levels across the organizational practice ranges, with the other variables remaining constant in their average values (Table 10). In general, for each single-unit increment within practice 1, the possibility for achieving a “strongly disagree”, “disagree”, “neither slightly disagrees”, and “slightly agree” response reduces compared to the possibility of achieving “agree” response in the comparative category. Conversely, for each unit increment within this practice, the possibility of achieving a “strongly agree” escalate compared to the possibility of achieving “agree” response. Additionally, for each single-unit increment within practice 2 variable, the possibility of achieving a “strongly disagree”, “disagree”, “neither slightly disagrees”, and “slightly agree” responses escalate compared to the possibility of achieving “agree” response in the comparative category. Moreover, for each single-unit increment within organizational practice 2, the possibility of achieving a “strongly agree” response reduces compared to the possibility of achieving “agree” response. Finally, for each single-unit increment within practice 4 variable, the possibility of achieving “strongly disagree”, “disagree”, “neither slightly disagree”, “slightly agree”, and “strongly agree” responses reduce compared to the possibility of achieving “agree” response in the comparative category.

According to hypothesis 3, the fair distributive environment for practice 1 will have a positive correlation with organizational commitment. The MNLM regression results are supportive of this hypothesis because they show the positive correlation that exists between practice 1 and the dependent variable. The forecasted organizational commitment levels across practice 1 that create a fair distributive organizational setting are indicated by figure 4.
Figure 4. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job Security Practice 1 (Providing Distributive Justice Organizational Environment)

Figure 5. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job Security Practice 2 (Offering Procedural Justice Organizational Environment)

Figure 6. Predicted Levels of Organizational Commitment, Encouragement to Subjective Job Security Practice 3 (Providing Potential Growth Opportunity)
Movement from the lower practice 1 levels towards the higher levels escalates the value for “strongly agree” and “good” by 0.06 and 0.19 respectively. Moreover, the forecasted probabilities for “strongly disagree”, “disagree”, “neither slightly disagree,” and “slightly agree” categories reduce considerably by 0.07, 0.04, 0.06, and 0.08 respectively, when there is movement across the practice 1 range. Such results are not only significant in terms of statistic, but substantive as well.

According to hypothesis 6, practice 2 that provides a fair procedural organizational setting will have a correlation with organizational commitment, the correlation’s trend ought to be positive. The question (this item =practice 2) is negatively worded. Therefore, if participants are likely to respond with “strongly disagree or disagree” instead of answering, “Strongly agree” to the same negative question, it may be suggested that practice 2 has a positive correlation with the dependent variable. In general, for each single-unit increment within practice 2, the possibility for achieving a “strongly disagree”, “disagree”, “neither slightly disagrees”, and “slightly agree” responses escalate compared to the possibility of achieving “agree”, the comparative category. Conversely, for each single-unit increment within practice 2, the possibility of acquiring a “strongly agree” response reduces compared to the possibility of achieving “agree” response. This implies that an increment within practice 2 increases the likelihood of observing the “strongly disagree (=SD)” outcome and a less possibility of observing the “strongly agree (=SA)” outcome. Such correspondence towards the positive indicator for the $\beta_{(SDVA)} (= 0.661)$ coefficient as well as the negative indicator for the $\beta_{(SAVA)} (= -0.214)$ coefficient. From amongst the three organizational practices, the correlation involving practice 2 and the dependent variable has the largest substantive magnitude. Figure 2 shows the forecasted probabilities for the dependent variable’s response categories across the current organization.
practice. The forecasted category levels for “slightly agree” “strongly agree” and “agree” decline drastically, but not in a linear manner, by 0.05, 0.14 and 0.20, when there is movement from the lower practice 2 levels towards higher levels. The forecasted category levels for “strongly disagree” and “disagree” escalate drastically, though not linearly, by 0.27 and 0.12, when there is movement across the practice 2 ranges. However, the effect caused by practice 2 upon the “neither slightly disagree” category, is almost zero.

The results from the MNLM regression are not supportive of hypothesis 12, which suggests that practice 4, offering an opportunity for potential growth, will have a positive correlation with organizational commitment. Practice 4 contains a statistically considerable coefficient; however, it has a negative correlation with the dependent variable. The forecasted probabilities for “strongly agree” and “agree” categories escalate drastically by 0.07 and 0.08 respectively, when there is movement across the current organizational practice range. In contrast, the forecasted probabilities for “slightly agree”, “disagree”, and “slightly disagree” categories decline drastically, though not in a linear manner, by 0.05, 0.12 and 0.18 respectively, when there is movement across the practice 4 ranges. The line that denotes the forecasted probabilities for “neither slightly disagrees” response category is statistically considerable but substantively closer to nil.

Briefly, the outcomes indicated by figures 5 and 6 suggests that practices 2 and 4 exhibit two enormous substantive impacts upon organizational commitment, whereas practice 1 tends to have a negligible effect. Practices 1 and 2 have a positive correlation with organizational commitment, with the correlation magnitude being considerably substantive. Notably, practice 4 has a negative correlation with organizational commitment, with the correlation magnitude being considerably substantive. To help in interpreting the MNLM results, the coefficients of the odds
ratio for organizational practices have been examined (table 9). This odds ratio technique offers a better insight about the correlation magnitude irrespective of the position on the scale over an independent variable range (Fernandez & Moldogazie, 2012, p. 171). A unit increment within practice 1 (initial organizational practice) escalates the odds for “strongly agree” versus “agree” category, which exists by a value of 1.02. Conversely, a unit increment within the current organizational practice reduces the odds for “slightly agree”, “neither slightly disagree”, “slightly disagree”, and “strongly disagree” categories versus “agree” category that occurs by values of 0.8, 0.78, 0.8 and 0.75 respectively, with other variables remaining constant. Similarly, a single-unit increment within practice 2 reduces the odds for “strongly agree” category versus the “agree” category existing by a value of 0.8. Furthermore, a unit increment within this organizational practice escalates the odds for “slightly agree”, “neither slightly disagree”, “slightly disagree”, and “strongly disagree” categories versus the “agree” category existing by values of 1.13, 1.17, 1.43 and 1.93 respectively, with other variables remaining constant. A unit increment within the organizational practice (practice 4) escalates the odds for “strongly agree” category against the “agree” category existing by a value of 0.99. Seemingly, a unit increment within this encouragement towards organizational practice reduce the odds for “slightly agree”, “neither slightly disagree”, “slightly disagree”, and “strongly disagree” categories against the “agree” category existing by values of 0.78, 0.81, 0.67 and 0.56 respectively, with other variables remaining constant.
Post-hoc Analysis (Moderating Effect)

This study also focuses on the how variations in the level of dependency influences the state workers’ job satisfaction and organizational commitment. According to the Greenhalgh and Rosenblatt (1984) job insecurity framework, the experience of job insecurity can be moderated by demographic characteristics such as individuals’ dependencies on their current job, and that dependence arises when individuals’ skills are in low demand in the labor market or individuals face high fixed obligations. On the basis of Greenhalgh and Rosenblatt framework, it is reasonable to assume that unclassified workers will show a high level of dependencies on their current job, while classified workers can be regarded as a low level of dependencies on their current job. Thus, I hypothesized that the effect of three organizational practices to reduce job insecurity (practice 1, practice2, and practice 4) are assumed to vary depending on the value of level of dependency (Classified vs. Unclassified). The effect of three organizational practices on employee attitudes might vary by dependency level. To allow this possibility, I add the interaction of practice 1-3 and position status (classified vs. unclassified group). The ordered logit model (OLM) results for the test for interaction effects among the three organizational practices and dependency level (position status) are presented in Table 11. For the job satisfaction dependent variable case, the results presented in model 1 and model 2 show the interactions between practice 1, providing distributive justice environment, and position status, as well practice 2, offering procedural justice environment, and position status are significant (p<.05). However, for the organizational commitment dependent variable case, all possible two-way interactions (practice1x dependency, practice2xdependecy, and practice3xdependenc) fail to achieve statistical significance (p=.81, p=.71, p=.58 respectively).
Table 11. Logit coefficients for Ordered Logit Model (ORM) with Interaction Effect, N=789

<table>
<thead>
<tr>
<th>Variable Description</th>
<th>Dependent Variable : Job Satisfaction</th>
<th>Dependent Variable : Organizational Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td>Practice 1</td>
<td>0.210**</td>
<td>0.085</td>
</tr>
<tr>
<td>(Distributive Justice)</td>
<td>(0.078)</td>
<td>(0.046)</td>
</tr>
<tr>
<td>Practice 2</td>
<td>-0.204***</td>
<td>-0.344***</td>
</tr>
<tr>
<td>(Procedural Justice)</td>
<td>(0.050)</td>
<td>(0.082)</td>
</tr>
<tr>
<td>Practice 4</td>
<td>0.204***</td>
<td>0.209***</td>
</tr>
<tr>
<td>(Potential Growth Opportunity)</td>
<td>(0.049)</td>
<td>(0.049)</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.114</td>
<td>-0.104</td>
</tr>
<tr>
<td></td>
<td>(0.140)</td>
<td>(0.140)</td>
</tr>
<tr>
<td>Age</td>
<td>0.255*</td>
<td>0.256*</td>
</tr>
<tr>
<td></td>
<td>(0.102)</td>
<td>(0.102)</td>
</tr>
<tr>
<td>Race</td>
<td>-0.004</td>
<td>-0.007</td>
</tr>
<tr>
<td></td>
<td>(0.083)</td>
<td>(0.083)</td>
</tr>
<tr>
<td>Work Years_State Gov</td>
<td>-0.023</td>
<td>-0.023</td>
</tr>
<tr>
<td></td>
<td>(0.062)</td>
<td>(0.062)</td>
</tr>
<tr>
<td>Eudcation</td>
<td>-0.098*</td>
<td>-0.087</td>
</tr>
<tr>
<td></td>
<td>(0.046)</td>
<td>(0.046)</td>
</tr>
<tr>
<td>Work Years_Position</td>
<td>0.076</td>
<td>0.073</td>
</tr>
<tr>
<td></td>
<td>-0.067</td>
<td>(0.067)</td>
</tr>
<tr>
<td>Position</td>
<td>0.497</td>
<td>-0.984*</td>
</tr>
<tr>
<td></td>
<td>(0.377)</td>
<td>(0.400)</td>
</tr>
<tr>
<td>Practice1 x Supervisory Status</td>
<td>-0.186*</td>
<td>0.02</td>
</tr>
<tr>
<td>Practice2 x Supervisory Status</td>
<td>0.213*</td>
<td>0.033</td>
</tr>
<tr>
<td>Practice3 x Supervisory Status</td>
<td>-0.152</td>
<td>-0.051</td>
</tr>
</tbody>
</table>

Standard errors are in parentheses. *P<.05.
**p<.01. ***p<.001.

Originally, the focus of my study was to investigate how the impact of three organizational practices differs from the other depending on an independent variable also referred as the moderator. The impact of practice 2 and practice 4 on job satisfaction varies by the level of dependency as proposed by the interaction term. The significance of interaction
coefficients cannot solely establish the significance of the interaction impact. Some observations may have significance in the interaction effect even when the interaction coefficient is significant. Equally, even if the interaction coefficient is significant, there may not be a significant effect from some observations (Hoetker, 2007 p.336). Thus, I look at the discrete change separately for low dependency group (=classified group) and high dependency group (unclassified group) and computed dependency differences (position differences) in discrete change with interactions. Through this process, we can measure how the effect of three organizational practices is varied depending on the value of another independent variable.

The results for the moderating effect of dependency type (=classified/unclassified group) are presented in Table 12 as changes in the marginal probability of workers’ work behaviors and attitudes of the state workers. The reported probabilities was calculated using the method described above and based on the model presented in Table 11.

Table 12. The Probability of dependency level in discrete change with interactions

| Dependencies on their current job | Job Satisfaction Pr(y = SA|x) | Organizational Commitment Pr(y = A|x) |
|----------------------------------|-------------------------------|-------------------------------------|
| Low (Supervisor Group)          | 0.022                         | 0.1037**                           |
| High (Non-Supervisor Group)     | 0.217**                       | 0.0924                             |
| 95%CI [-.0820 .1275]            | [.0635 .3719]                 | [.0234 .1831]                      |
| Low (Supervisor Group)          | -0.131**                      | -0.0351                            |
| High (Non-Supervisor Group)     | -0.365**                      | 0.0048                             |
| 95%CI [-.2483 -.0147]           | [-.5289 -.2018]               | [-.0711 .0009]                     |
| Low (Supervisor Group)          | 0.1674**                      | 0.2177**                           |
| High (Non-Supervisor Group)     | 0.3480**                      | 0.2504**                           |
| 95%CI [.0436 .29112]            | [.1691 .5270]                 | [.1354 .3011]                      |

Note: CI=confidence interval. The marginal change in Pr(y) is the change in the probability of dependent variable (Job Satisfaction, and Organizational Commitment) associated with discrete change in the predictor variable when all other predictors are at their mean level.

**p<.05
Firstly, for job satisfaction case, the largest difference in the discrete change between the dependency levels is for the probability of answering "strongly agree". For both classified group (low dependency) and unclassified group (high dependency), an increase in organizational practice 2 to reduce job insecurity, providing procedural justice, from lowest to highest level increases the probability of “strongly agree”, but the decrease is 0.36 for classified group (high dependency) and 0.13 for unclassified group. This question (this item = practice 2) is worded negatively. So if respondents are more likely to answer strongly disagree or disagree than to answer “strongly agree” to equivalent negative question, it can be interpreted that practice 2 is positively related with dependent variable.

Conversely, for both classified group (low dependency) and unclassified group (high dependency), an increase in encouragement to subjective job security practice 4, offering potential growth opportunity, from lowest to highest level increases the probability of “strongly agree”, but the increase is 0.16 for classified group (low dependency) and 0.34 for unclassified group.

Lastly, for organizational commitment variable case, the largest difference in the discrete change between the dependency levels is for the probability of answering "agree". For both classified group (low dependency) and unclassified group (high dependency), an increase in organizational practice 2 to reduce job insecurity, providing potential growth opportunity, from lowest to highest level increases the probability of “agree”, but the increase is 0.08 for unclassified group (high dependency) and only 0.11 for classified group. Similarly, for both classified group (low dependency) and unclassified group (high dependency), an increase in organizational practice to reduce job insecurity (practice 4), offering potential growth opportunity, from lowest to highest level increases the probability of “strongly agree”, but the
increase is 0.21 for classified group (low dependency) and 0.25 for unclassified group (high dependency).

**Discussion**

This research was an initial step toward identifying an empirically validated relationship between organizational practices to increase perception of job security and employee work attitudes and behavior in limited job security protection environment of U.S. federal and state government. The concept of organizational practices to increase perception of job security applies particularly to employees who felt job insecurity in this study. Thus, the focus of the analysis was on those employees of 2004 U.S. Department of Homeland Security and 2000 Georgia state government that face limited job security protection through at-will employment policy. Both federal and state government employees in this study were experiencing stressors associated with 2004 civil service reform and 1997 GeorgiaGain civil service reform process such as job security rule change and they were experiencing lower levels of job security protections.

Thus, using a sample of people employed at federal and state government, respectively, I demonstrated that federal employees who perceived strong signals of organizational work settings to increase perception of job security, in the form of giving empowerment and offering potential growth opportunity, is strongly positively correlated with employees’ job satisfaction, work group performance, and organizational commitment. Results from this study also indicated that the strong link between the existence of giving a distributive justice and offering empowerment and the work group performance in Department of Homeland Security.
In addition, I found that state employees who perceived strong signals of organizational context (or environment) to increase perception of job security, in the form of providing procedural justice, is strongly positively correlated with employees’ job satisfaction and organizational commitment. Analysis of Georgia state employee also indicated that the strong link between the existence of offering potential growth opportunity practice and the employee organizational commitment.

Overall, results from this study indicated that employees responded positively with job satisfaction, performance, and organizational commitment if they perceived a strong perception of organizational practice to increase perception of job security, in the form of offering potential growth opportunity, in the federal and state government which faced vanishing job security protection environment.

I further found that the dependencies on employee current job moderate the relation between perception of organizational practice and self-described employee work behavior and attitudes.

However, I also found a number of unexpected results in this study. Notably, in the federal government level (:Department of Homeland Security), practice 1, in the form of offering distributive justice, did not have a statistically significant, direct effect on federal employee perceived job satisfaction and organizational commitment in lessening job security protection environment. Practice 2, in the form of providing procedural justice environment, also did not have a statistically significant, direct effect on federal employee perceived performance. In addition, in the state government level (Georgia State government), practice 1, in the form of offering distributive justice environment, did not have a statistically significant, direct effect on state employee perceived job satisfaction and organizational commitment. Especially, both
practice 1 and practice 2, in the form of providing distributive justice and procedural justice practices, which I found frequently mentioned in general fairness and job insecurity literatures, had no significant impact on employee work attitudes and behavior. Explanation for this result includes that possibility that organization did not regularly disseminate such policy or supervisors may not have related information such as news about progress toward organization goals about fair treatment activities occurring elsewhere in the federal and state government in a way that helped employees associated the information with their personal actions. Thus, I recommend future research to find out if these policies were less relevant to employees’ work attitudes and behavior, if organization did not communicate these policies effectively, if the organization exhibited less commitment to these individual policies, or of some other factor explains this result in elimination of job security protection environment. I believe these are warrants further research.

The context of this study and its findings offer several implications. Theoretically, this study adds to our understanding of employee reactions (work attitudes and behavior) to organizational practice by showing that employee job attitudes and behavior operate differently when employees perceive that they have been treated fairly (state employee), have been empowered (federal employee), and have got an opportunity to development for current or future career (state and federal employee). Thus, the organization has a need to determine if employees perceive that they are not being treated fairly, or empowered, and got a potential growth opportunity. However, study results indicated that organization does not need to determine if the employee perceives that they are being rewarded fairly for their efforts (distributive justice) for promoting perceived performance.
The results regarding federal government case, as evidenced by the weight assigned to empowerment and potential growth opportunity of organizational environment may mitigate concern of losing employment to their organization’s new job security rule. Thus, it is possible that empowerment and potential growth opportunity could be the main driver of increasing employee job attitude and behavior when employee faces in elimination of job security protection environment in federal government. In state government case, another important implication of the results of the behavioral analysis is that organization which faced elimination of job security protection that want to promote employee job satisfaction and organizational commitment apparently need policy makers who make organizational environment to increase perceived job security, in the form of offering procedural justice and potential growth opportunity. It could be the main driver of promoting state employee job satisfaction and organizational commitment, if state government introduced new job security rule such as at-will employment policy.

The uniqueness of this study setting further allowed us to observe differences between reactions of supervisory group (unclassified group) and non-supervisory group (classified group) to organizational practices. These differences suggest that the perception of individuals’ dependencies on their current jobs play a significant role in determining employee work attitude response. Furthermore, the interaction between 4 practices (or 3 practices in state level) and group (position) seems to indicate that organization that want to encourage employee work behavior and attitudes when they are restricted by institutional rule such as at-will employment policy can benefit from the communication of their practice with non-supervisory group, since non-supervisory (or non-classified) group who perceive they are in much dependency level of their current job may be more sensitive to their current situation and future opportunity.
Consequently, all above these findings have significant implications for both the job security e and the human resource & organizational behavior literature.

The study had many limitations that need to be acknowledged. First, this study was cross sectional which means that causality of the variables is difficult to determine. In order to make causal inferences, future research focusing in those variables of organizational practices and workers work attitudes and behavior over time will strengthen our ability to do so. The other limitation is lack of adequate data concerning other workers’ trait and social support, which might have influenced the observed connection between workers work mindset and behavior and the variables of organizational virtues. For instance, according to Greenhalgh and Rosenblatt (1984), data on workers need for social support and security would have given our study a chance to fine-grain the analysis of the moderator on the effects of organizational virtue on workers’ work mindset and behavior. Lastly, common method variance may justify some results since almost every variable was weighed from one source.

**Conclusion**

To conclude, there has been a change in organizational policies that emanates from the dilemma of resolving the issue of job security protection. The study has improved our perception on the employee work attitudes and behaviors of state and federal workers and how organizational practices helps in minimizing the issue of job insecurity protection in an organizational environment. The empirical results of this survey does not clarify what methods the managers and the policy maker in organization prefer to use in order to address the job insecurity environment and what encourage them to do so.
This paper points out some of the mechanisms that the managers and policy makers in an organization should use to in ways that are in line with group value theory, uncertainty management theory and organizational support theory. The study ascertains that empowerment and the potential growth opportunity impact the federal workers’ work attitudes and behavior and how the procedural justice and potential growth opportunity impact the state workers’ work attitudes and behavior in the perspective of public policies and job security in an organization.
Chapter 6. Conclusion

Introduction

Job security is a concept of enduring importance in public administration and public management. There has been a legal shift from the traditional job-tenure to a new job security model in some states, such as Georgia, Florida, and Texas, as well as in some federal agencies such as the Department of Homeland Security and Department of Defense (Coggburn, 2006; Selden, 2006; Perry, 2010). Recent developments, at least in the U.S., indicate that we are at the beginning of a process that reverses long-standing job security rules. Although job security plays a central role in the identity of public institutions and we are indeed at the early stages of lessening job security protections in government, we have relatively little theoretical or empirical research about job security and we did not invest in learning about the effects of recent developments in the public sector.

This dissertation presents empirical studies on different facets of job security and insecurity in the public sector. The dissertation had three purposes. First, I aimed to unravel the true mean correlation (relationship) between job security and employee work attitudes in the public and private sector domains. Such an analysis allowed me to determine the relative importance of job security compared to other predictors of employee work attitudes (Schwinger et al. 2014, p. 754). Second, I examined the effect of recent new job security arrangements on the U.S. federal employee’s perceptions toward their job. Lastly, I sought to identify relevant organizational practices that elevate federal and state employees’ insights regarding their work environment change the employee work attitudes and behavior.

This concluding chapter begins with a summary of research findings. I then discuss the contributions to scholarship about job security flowing from this dissertation. Implications for
theory and practice are then presented. The chapter then concludes with a discussion of the study limitations and suggestions for future research.

**Summary of Research Findings**

The dissertation first seeks to develop research questions for job security by synthesizing streams of research with origins in labor and employment relations, organizational behavior, and public human resource management. This process resulted in three research gaps: (1) research on relationships between job security and employee work attitudes and behavior have produced an especially large number of mixed and conflicting findings; (2) how institutional features of objective job security influence subjective job security, employee behavior, work attitudes and behaviors, and their performance need to be examined in more detail; and (3) in relation to the amount of research that has been conducted on subjective job insecurity, relatively few studies investigating how organizational practices affect work attitudes and behavior have attended to the institutional rules associated with objective job security.

This dissertation was to address and fill these three gaps of previous research on public job security across three empirical essays.

Essay 1 employs a meta-analytic method to test for an inverted U-shaped relationship between job security and employee work attitudes. This study shows that medium sized association between job security and work behavior variables (job satisfaction and organizational commitment) were found, ($\rho$) with .327 for job satisfaction and .253 for organizational commitment. But the inverted U-shaped relationship between job security and work attitudes is not in operation between the two work attitudes interactions examined at varied strata of job
security/insecurity. Essay 1 findings suggest that possible organizational interventions such as at-will employment may decrease employee work attitudes and individual performance.

Essay 2 estimates the impact of different job security rules on federal civilian employees’ organizational commitment by looking at recent changes in the Department of Homeland Security’s (DHS) at-will employment system using difference-in-differences (DID) method. Result shows that the overall effect of introduction of a new job security rule in DHS is a decrease of approximately 16% in organizational commitment, which is a substantial negative effect on the organizational commitment in the DHS. In addition, the results of this study also suggest that ending the modified job security rule may have boosted organizational commitment among DHS workers by as much as 19.1 to 19.6 percentage points. Taken together, the results of my difference in differences (DID) analysis for the new job security rule in 2004, the modified rule in 2005, and ending the job security rule in 2007 suggests that workers organizational commitment in DHS were more favorable after the modified or ended job security rule than what would have been the case, present the introduction of new job security rule.

Essay 3 employ a multinomial logit model (MNLM) to examine how public employees with limited job protections or security have reacted to the variety of new managerial structures associated with the federal and state civil service reform. I tested whether a set of organizational (or human resource management) practices to increase perceived job security shape employee work behavior and attitudes, which are constrained by institutional rule such as “new job security rule.” This study demonstrated that federal and state government employee work behavior and attitudes with limited job protections or security were influenced by the set of organizational (or human resource management) practices to increase perceived job security (e.g., giving empowerment, offering potential growth opportunity).
Contributions to Scholarship on Job Security

This dissertation aims at developing a theoretical framework that explains the structural development of public job security over time. From a theoretical perspective, the dissertation research contributes to theory building in the field of public management by developing a research agenda and testable structural hypotheses that can explain the development of job security and identify content distinctive to public institutions.

The methodological approach taken in the dissertation transcends the conventional approach adopted by current public administration researchers, who mostly provide a descriptive analysis of job security at one level using one time period. This dissertation is employing a meta-analytical method to unravel the relationship between job security and employee work attitudes (i.e., job satisfaction and organizational commitment). While previous studies have produced a large number of mixed and conflicting findings, using meta-analysis, my dissertation seeks to confirm the existence of relationship between job security and work attitudes. This dissertation evaluated the impact of job security rule changes on U.S. federal government employee work attitudes, and I am using quasi-experimental methods to assess the impact of 2004, 2005, 2007 year Department of Homeland Security’s job security rule changes on employee affective organizational commitment. Despite the fact that a number of studies have reported cross-sectional, short-term impacts, hardly any study has delved into the how the attitudes or behaviors of employees have been effected by different changes in the job security rules by making a comparison of the treated units prior to and after treatment. In a bid to perform more robust analysis, this dissertation drew its data from a large, multi-year dataset in DHS as well as the Department of Energy using quasi-experimental design. This dissertation also evaluated how public employees with limited job protections or security have reacted to the variety of new
managerial structures associated with the federal and state civil service reform using a sample of people employed at federal and state government, respectively. This research was an initial step toward identifying an empirically validated relationship between organizational practices to increase perception of job security and employee work attitudes and behavior in limited job security protection environment of U.S. federal and state government.

**Implications for Theory and Practice**

The context of this dissertation and its findings offer several implications for theory and practice. As previously mentioned, there has been a legal shift from the traditional job-tenure to a new job security model in some states, such as Georgia, Florida, and Texas, as well as in some federal agencies such as the DHS and DOD (Coggburn, 2006; Selden, 2006; Perry, 2010). Theoretically, it is assumed that creation of at-will workforce can motivate poorly performing public employees by terminating people for cause – or for no reason at all (Coggburn, 2006; Kellough & Nigro, 2006; Battaglio, 2010). In addition, according to other theoretical approaches, work attitudes are lessened by job security. There are also several significant observations about job security which underscore that motivation of work is reduced by high job security (long-term contract). Thus the theorists assumed that performance of the employee is reduced by it, while if there is less job security (at-will employment) it increases the motivation towards work, thereby resulting in higher performance from the employee. To be brief, the employee will not be motivated sufficiently by higher job security since they will have already been satisfied (Brockner et al. 1992). However, the dissertation findings from essay 1 and essay 2 suggest that possible organizational interventions such as at-will employment may decrease employee work attitudes and individual performance. Thus, theoretically, these results from the both essays
highlight the significance of job security at the public sector workplace, in shaping and enhancing attitudes of employee. In line with these considerations, practically, the meta-analysis (Essay 1) and difference-in-differences analysis (Essay2) results suggest that policy makers may expect to increase employee job satisfaction and organizational commitment through enriching the emotive content of a job. Thus, full tenure may also be a means utilized to maximize employee job satisfaction and affective organizational commitment. Thus, practitioners, researchers, and theorists should start to discuss how we can reconcile employee needs for security with the employer’s need for effective outcomes. The debate about job security has tended to take on an either-or character—firm tenure for employees or at-will employment. We try to find some alternative mechanisms whereby the needs of both employees and employer can be met.

In addition, this dissertation provides some evidence that new job security rules that were adopted by the DHS unsuccessful, particularly in its effort to improve the productivity and commitment of the employees to the organization. Thus, policy makers should be aware of the potential stress at-will employment practices brings to employees and design appropriate policies to combat such threats. Thus, another key issue that stands tall here is how the managers and the policy makers create suitable managerial environment that will help employees to facilitate desirable behaviors and attitudes while at work at the time when there are minimal job security protections such as at-will employment practice situation. When the workers are subjected to limited job security, not much is known about what influences their employee work attitudes and behavior.
Thus, this dissertation results from essay 3 points out some of the mechanisms that the managers and policy makers in an organization should use to in ways that are in line with group value theory, uncertainty management theory and organizational support theory.

Thus, theoretically, current dissertation (from essay 3) adds to our understanding of employee reactions (work attitudes and behavior) to organizational practice by showing that employee job attitudes and behavior operate differently when employees perceive that they have been treated fairly (state employee), have been empowered (federal employee), and have got an opportunity to development for current or future career (state and federal employee). These results regarding federal and state government case, as evidenced by the weight assigned to empowerment and potential growth opportunity of organizational environment (federal employee) and fairness and potential growth opportunity of organizational environment (state employee) may mitigate concern of losing employment to their organization’s new job security rule. In line with these considerations, practically, it is possible that empowerment and potential growth opportunity could be the main driver of increasing employee job attitude and behavior when employee faces in elimination of job security protection environment in federal government. In state government case, another important implication of the results of the behavioral analysis is that organization which faced elimination of job security protection that want to promote employee job satisfaction and organizational commitment apparently need policy makers who make organizational environment to increase perceived job security, in the form of offering procedural justice and potential growth opportunity. It could be the main driver of promoting state employee job satisfaction and organizational commitment, if state government introduced new job security rule such as at-will employment policy.
Limitations and Suggestions for Future Research

The current dissertation had some limitations that need to be acknowledged. First, due to the lack of public administration/management studies that focus on relationship between job security and work attitudes, not all studies from private to public sector scholarship could be included in the current meta-analysis (i.e., I just considered studies that focus on relationship between job security and work attitudes from business/psychology/applied psychology/education/social work journals). With respect to the publication bias and public job security scholarship, future investigations could focus on additional studies from public administration/management journal. In line with these considerations, public administration/management scholars need to be interesting to analyze the associations of job security and various work outcomes in future.

Second, another key limitation of using data from the FHCS is that it accounts for a limited range of variables that be used as control factors that may have influenced the employees in the Department of Homeland Security and the Department of Energy in the difference-in-differences analysis. It is imperative for this empirical test design to hold a myriad of confounding factors constant to control any other alternative explanation to the changes in the levels of affective organizational commitment among federal employees. The current difference-in-differences model did not take account of a large number of control variables necessary in alleviating the potentially confounding effects on affective organizational commitment as a result of limitation in the data. Future research should focus on additional agency control factors such as the existence of labor union, collective bargaining power, ratio of union employees to non-union employees, as well as the political and institutional context of both agencies.
In line with above discussion, future studies in this field can also specifically investigate the impact of different job security practices on the employee’s work attitude in other agencies (i.e., other state government or federal government) and other sectors (i.e., public education or public health sector) so that a more effective generalization can be achieved.

Lastly, the other limitation is lack of moderator and mediator analysis concerning other workers’ trait and social support, which might have influenced the observed connection between workers perception toward their work attitudes and behavior and the variables of organizational practices. For instance, according to Greenhalgh and Rosenblatt (1984), data on workers need for social support and security would have given our study a chance to fine-grain the analysis of the moderator on the effects of organizational virtue on workers’ work mindset and behavior. Thus, future research could focus on addition moderators or mediators on public job security research to identify possible options for buffering recent job security practices.

Despite the above-mentioned limitations, I believe that the present dissertation has provided important insights into the true relationship between job security and employee work attitudes; effects of new job security arrangements on the U.S. federal employee’s perception toward their job; and work attitudes and behaviors of state and federal workers and how organizational practices help in minimizing the issue of job insecurity in an organizational environment. Considering the relevant literature up to May 2015, my findings explicated the relative importance of public employee’s job security as a positively correlated of their work attitudes and behavior. Taken together, this dissertation has potential value for policy makers, public mangers, and public program evaluators, who evaluate the efficiency and effectiveness of recent new civil service reform related to public employee job security right, and has utility for
practitioners, researchers, and theorists as they seek to redesign at-will employment policy that ultimately limits public employees’ work attitudes and behavior.
APPENDIX

Appendix A

Measures of Employee Subjective Job Security Practices

Practice 1 (Offering Distributive Justice)
Survey indicators
- Promotions in my work unit are based on merit
  (1=strongly disagree through 5=strongly agree)
- High-performing employees in my work unit are recognized or rewarded on a timely basis
  (1=strongly disagree through 5=strongly agree)
- In my work unit, differences in performance are recognized in a meaningful way
  (1=strongly disagree through 5=strongly agree)
- My performance appraisal is a fair reflection of my performance
  (1=strongly disagree through 5=strongly agree)
Cronbach’s alpha test, mean interval covariance=0.56
Cronbach’s alpha test, scale reliability coefficient=0.83

Practice 2 (Providing a Procedural Justice)
Survey indicators
- Complaints, disputes or grievances are resolved fairly in my work unit
  (1=strongly disagree through 5=strongly agree)
- Arbitrary action, personal favoritism and coercion for partisan political purposes are not tolerated
  (1=strongly disagree through 5=strongly agree)
- Prohibited Personnel Practices (e.g., illegally discriminating for or against any employee/applicant, obstructing a person’s right to compete for employment, knowingly violating veterans’ preference requirements) are not tolerated
  (1=strongly disagree through 5=strongly agree)
Cronbach’s alpha test, mean interval covariance=0.69
Cronbach’s alpha test, scale reliability coefficient=0.87

Practice 3 (Offering empowerment)
Survey indicators
- Employees have a feeling of personal empowerment with respect to work processes
  (1=strongly disagree through 5=strongly agree)
- How satisfied are you with your involvement in decisions that affect your work?
  (1=very dissatisfied through 5= very satisfied)
Cronbach’s alpha test, mean interval covariance=0.64
Cronbach’s alpha test, scale reliability coefficient=0.78

Practice 4 (Giving potential growth opportunity)
Survey indicators
- I am given a real opportunity to improve my skills in my organization
  (1= strongly disagree through 5= strongly agree)
- Employees have electronic access to learning and training programs readily available at their desk
  (1=very dissatisfied through 5= very satisfied)
- I receive the training I need to perform my job
  (1=very dissatisfied through 5= very satisfied)
- How satisfied are you with your opportunity to get a better job in your organization?
  (1=very dissatisfied through 5= very satisfied)
- How satisfied are you with the training you receive for your present job?
  (1=very dissatisfied through 5= very satisfied)

Cronbach’s alpha test, mean interval covariance=0.49
Cronbach’s alpha test, scale reliability coefficient=0.83

Source.2004 Federal Human Capital Survey

Appendix B

Measures of Control Variables

Leadership Style 1
- “In my organization, leaders generate high levels of motivation and commitment in the workforce”
  (1= strongly disagree through 5= strongly agree)

Leadership Style 2
- “Supervisors/team leaders provide employees with constructive suggestions to improve their job performance”
  (1= strongly disagree through 5= strongly agree)

Leadership Style 3
- “Supervisors/team leaders in my work unit support employee development”
  (1= strongly disagree through 5= strongly agree)

Gender
- Respondent’s gender (1=male, 2=female)

Minority
- Respondent’s race (1=white, 2=minority)

Supervisory Status
- Respondent’s supervisory status (1=nonsupervisory group, 2= supervisory group, 3= executive group)

Source.2004 Federal Human Capital Survey
### Appendix C

**Descriptive Statistics for Observations with Missing Values**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
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<tr>
<td>Practice 1 (Distributive Justice)</td>
<td>-1.20E-03</td>
<td>0.815</td>
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<td>Practice 2 (Procedural Justice)</td>
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<td>Practice 3 (Empowerment)</td>
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<td>0.904</td>
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<td>Practice 4 (Potential Growth Opportunity)</td>
<td>-1.70E-03</td>
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<td>-2.04</td>
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<tr>
<td>Leadership Style 1</td>
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<td>1.227</td>
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<td>5</td>
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<tr>
<td>Leadership Style 2</td>
<td>3.46E+00</td>
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<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Leadership Style 3</td>
<td>3.56E+00</td>
<td>1.057</td>
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<td>5</td>
</tr>
<tr>
<td>Gender</td>
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<td>0.471</td>
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<td>2</td>
</tr>
<tr>
<td>Minority</td>
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<td>2</td>
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<tr>
<td>Supervisory Status</td>
<td>1.44E+00</td>
<td>0.526</td>
<td>1</td>
<td>3</td>
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</tbody>
</table>

Note. Sample size=10478 (Department of Homeland Security). A total of 2272 observations with missing data, or 22% of the original sample.

Source. 2004 Federal Human Capital Survey

### Appendix D

**Measures of Employee Encouragement to Subjective Job security Practices**

Practice 1 (Cleary Expectancy)
- “My most recent performance ratings accurately reflected my performance”
(1= strongly disagree through 6=strongly agree)

Practice 2 (Fair Treatment)
- “I do not trust my agency to treat me fairly”
(1=strongly disagree through 6=strongly agree)

Practice 3 (Potential Growth Opportunity)
- “Adequate resources and opportunities for career development are available to state employees”
(1=strongly disagree through 6=strongly agree)

Source. 2000 GeorgiaGain Survey
Appendix E

Measures of Control Variables

Gender
  • “What is your gender?”
    (1=male, 2=female)
Age
  • “What is your age?”
    (1=18-35, 2=26-30, 3=31-45, 4=46-60, 5=61 or older)
Race
  • “What is your race?”
    (1=white, 2=African American, 3=Asian/Pacific islander, 4= Hispanic, 5= Multi-racial, 6= Native American (American Indian)
Work Years_State Gov
  • “How long have you worked for the State of Georgia?”
    (1= less than 1yr, 2=1-4yrs, 3=5-9yrs, 4=10-14yrs, 5=15-19yrs, 6=20+yrs)
Education
  • “What is the highest level of education that you have completed?”
    (1=Less than high school graduate, 2=High School Diploma/GED, 3= Technical/Vocational School Diploma, 4=2-Year College Degree, 5= 4-Year College Degree, 6= Master’s Degree, 7=Doctoral Degree)
Work Years_Position
  • “How long have you worked in your current position?”
    (1= less than 1yr, 2=1-4yrs, 3=5-9yrs, 4=10-14yrs, 5=15-19yrs, 6=20+yrs)
Position
  • “Your current position is:”
    (1=Classified, 2= Unclassified, 3=Not sure)

Source. 2000 GeorgiaGain Survey

Appendix F

Descriptive Statistics for Observations with Missing Values

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice 1 (Clear Expectancy)</td>
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<td>6</td>
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<td>Practice 2 (Fair Treatment)</td>
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<td>1.557</td>
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<td>6</td>
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<td>Practice 3 (Potential Growth Opportunity)</td>
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<td>1.476</td>
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<td>6</td>
</tr>
<tr>
<td>Gender</td>
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<td>2</td>
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<tr>
<td>Age</td>
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<td>5</td>
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<td>Race</td>
<td>1.498</td>
<td>0.823</td>
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<td>6</td>
</tr>
<tr>
<td>Work Years_Sate Gov</td>
<td>3.970</td>
<td>1.521</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Education</td>
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<td>1.475</td>
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</tr>
<tr>
<td>Work Years_Position</td>
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<td>6</td>
</tr>
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<td>Position</td>
<td>1.449</td>
<td>0.622</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Note. Sample size=1234 (Georgia State Government). A total of 393 observations with missing data, or 32% of the original sample

Source. 2000 Georgia Gain Survey
REFERENCES

References marked with an asterisk* indicate studies included in the meta-analysis.


Long, J.S., & Freese, J. 2006. Regression models for categorical dependent variables using Stata (2nd ed.). College Station, TX: Stata Press.


behavior, and negative emotions of employees. *International Studies of Management & Organization, 40*(1), 74-91.


HyunKang Hur  
Curriculum Vitae

School of Public and Environmental Affairs  
Indiana University  
1315 East 10th Street  
Bloomington, IN 47405  
Phone: 812-322-4815  
E-mail: hyunhur@indiana.edu

ACADEMIC APPOINTMENT

Visiting Lecturer  
School of Public and Environmental Affairs, Indiana University Bloomington, IN, U.S.A August 2015

EDUCATION

Ph.D. Candidate in Public Affairs., Indiana University at Bloomington July 2015  
Major: Public Management & Public Policy Analysis  
Minor: Organizational Behavior & Human Resource Management (Kelley School of Business)

M.P.P., University of Maryland at College Park May 2009  
Major: Public Policy

B.A., SungKyunKwan University, Seoul, Korea Feb 2005  
Major: Public Administration & Business

RESEARCH INTERESTS

Human Resource Management, Organizational Theory, Organizational Behavior, Public Administration,  
Public Management, Non Profit Management, Public Policy Analysis, Research Methods, Program Evaluation,  
Job Security, Job Insecurity, Performance-Related Pay, Public Service Motivation, and Government Reform

DISSERTATION

Title: Three Essays on Public Job Security

Chair: James L. Perry  
Committee Members: Michael McGuire, Sergio Fernandez, and Haeil Jung
JOURNAL ARTICLES UNDER REVIEW & WORKING PAPERS


Hyunkang Hur and James L. Perry, “Impact of Job Security Rule Change on California State Teachers Work Attitudes and Behavior”


Hyunkang Hur and Sergio Fernandez, “The Importance of Job Security for Turnover Intentions in the U.S. Department of Defense”

Hyunkang Hur, “Perceived Job Security and Work Motivation and Performance: The Mediating Role of Leader Member Exchange (LMX)”

CONFERENCE PRESENTATIONS (* denotes presenter)


**ACADEMIC HONORS & AWARDS**

- Doctoral Fellowship, School of Public and Environmental Affairs, Indiana University, 2009-2014
- School of Public Policy Scholarship (RA ship), School of Public Policy, University of Maryland, College Park, 2006 Fall-2008 Spring
- William Donald Schaefer Internship Award, School of Public Policy, University of Maryland, College Park, 2007 Summer
- Outstanding Academic Achievement Scholarship, Graduate School of Governance, SungKyunKwan University, Seoul, Korea, 2005 Spring
- Woo-Duck Foundation Fellowship, Han-IL Cement Group, 2003 Fall-2004 Fall
- Outstanding Academic Achievement Scholarship, SungKyunKwan University, 1998 Spring-2003 Spring

**TEACHING INTERESTS**

TEACHING EXPERIENCE

K300, Statistical Techniques, Indiana University, one section of 100 students, Spring 2015
K300, Statistical Techniques, Indiana University, one section of 100 students, Fall 2014
K300, Statistical Techniques, Indiana University, one section of 75 students, Spring 2014
K300, Statistical Techniques, Indiana University, one section of 64 students, Fall 2013

RESEARCH AND TEACHING ASSISTANT

Associate Instructor
School of Public and Environmental Affairs, Indiana University 2013-2015
Research Assistant of Professor James L. Perry
School of Public and Environmental Affairs, Indiana University 2009 Fall-
Research Assistant of Professor Beth Gazley
School of Public and Environmental Affairs, Indiana University 2012-2013
Teaching Assistant of K300 (Statistical Technique)
School of Public and Environmental Affairs, Indiana University 2010-2012
Research Assistant of Professor Haeil Jung
School of Public and Environmental Affairs, Indiana University 2009-2010
Research & Teaching Assistant of Professor Moon-Hee Kang
Korea National Open University, Seoul, South Korea 2008-2009
Research Assistant of Professor Carol Pearson
School of Public Policy, University of Maryland, College Park 2006-2008
Research Assistant of Dr. Sangheon Lee
International Labor Organization (ILO), Geneva, Switzerland 2007 Summer
Research & Teaching Assistant of Professor Min-Bong You
SungKyunKwan University, Seoul, South Korea 2002-2006

WORKING EXPERIENCE

Research Intern of Senior Research and Policy Coordinator, Dr. Sangheon Lee
Conditions of Work and Employment (TRAVAIL)
International Labor Organization (ILO), Geneva, Switzerland 2007 May-2007 August

OTHER ACTIVITIES & SERVICE

Army Service
Republic of Korea Army (ROKA) 3rd Artillery Brigade, Korea 1999-2001
PROFESSIONAL SERVICE

Reviewer: International Public Management Journal (IPMJ)

PROFESSIONAL ASSOCIATIONS

Member, American Political Science Association (APSA)
Member, Academy of Management (AOM)
  AOM Public and Nonprofit Division
  AOM Human Resources Division
Member, Midwest Political Science Association (MPSA)
Member, Public Management Research Association (PMRA)

DOCTORAL COURSEWORK

Public Management
  Public Organizations and Management I       Michael McGuire
  Public Organizations and Management II      Sergio Fernandez

Human Resource and Organizational Behavior (Business)
  Seminar in Organizational Behavior         Philip Podsakoff
  Seminar in Human Resource Management       Herman Aguinis

Policy Analysis
  Seminar in the Public Policy Process       Evan Ringquist
  Seminar in Policy Analysis                 Ashlyn Nelson
  Public Policy Analysis and Management      David Good

Research Methods and Statistics
  Research Design and Methods in Public Affairs David Reingold
  Seminar in Research Methods in Organizational Behavior Philip Podsakoff
  Statistics for Research in Public Affairs I Evan Ringquist
  Statistics for Research in Public Affairs II David Good
  Topics in Quantitative Sociology           John Kennedy
  Statistical Methods IIB                    Scott Long
  Covariance Structure Analysis              Leslie Rutkowski

Teaching
  Doctoral Teaching Seminar                  George Rehrey