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The Effect of Pay Banding on Generational Cohort Perceptions of Job Satisfaction

Charles Terence Polk
Walden University

Walden University

College of Social and Behavioral Sciences

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Charles Polk

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Review Committee
Dr. Richard Worch, Committee Chairperson,
Public Policy and Administration Faculty

Dr. Mark Stallo, Committee Member,
Public Policy and Administration Faculty

Dr. Aman Khan, University Reviewer,
Public Policy and Administration Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
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Abstract

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by

Charles T. Polk

MPA, Troy State University, 2004

BA, Columbia College, 1999

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

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Abstract

For over 3 decades, the federal government has attempted to introduce pay-for-performance into the federal workforce. It is important for federal agencies to understand the impact of pay-for-performance, specifically pay banding, on job satisfaction and retention of frontline managers as agencies face the exodus of the retiring Baby Boomer generation. The purpose of this study was to explore the effect of pay banding on job satisfaction and intention of frontline managers to leave the Internal Revenue Service (IRS). The theoretical foundation for this study was Adams's equity theory as viewed through the lens of Mannheim's generational theory. The overarching research question was concerned with whether pay banding effects generational perceptions of job satisfaction and predicts turnover intention. This quantitative study used ANOVA, hierarchical multiple regression, mediation analysis, moderation analysis, and logistic regression to analyze the impact of pay banding on generational perceptions of job satisfaction and turnover intention among IRS frontline managers. The sample was limited to frontline managers of the Department of the Treasury (n = 2,525). Key findings indicated that pay banding was negatively associated with job satisfaction and that pay banded managers were 1.36 times more likely to leave the agency than managers who were not pay banded. Pay banding mediated the relationship between gender and job satisfaction. Positive social changes that may result from governmental policymakers applying the findings of this study are improved retention of highly skilled frontline managers, improved the efficiency and effectiveness of government services, and reduced cost of retraining managers due to attrition. These changes may improve the work environment for employees and improve governmental services provided to the citizenry.

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Dedication

This dissertation is dedicated to my wife. Pat supported me throughout my doctoral journey. To accomplish my doctoral journey, I needed several support people, including a best friend, a fierce supporter, a proofreader, an encourager, and a sounding board, and I found all of these and more in my loving wife, Pat.

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Chapter 1: Introduction to Study

Introduction

Pay-for-performance had its origins within the private sector and migrated into the federal public sector with no consideration for the motivational differences between federal public sector workers and those of the private sector (Perry, Hondeghem, & Wise, 2010). Bryson (2010) stated that the public sector policymakers frequently implement policy based private sector experiences and early successes before the private sector determines the long-term outcome. The federal government embraced pay-for-performance despite limited private sector successes (Park & Berry, 2012). This study addressed pay-for-performance in the federal public sector through the generational lens of federal workers' perception of job satisfaction and equity in the pay-for-performance system, specifically concerning frontline managers of the Internal Revenue Service (IRS), who are pay banded, compared to frontline managers of the remainder of the Department of the Treasury, who are not pay banded.

Determining federal workers' perceptions of equity within the pay-for-performance system and the impact of pay banding on job satisfaction should assist policymakers and bureaucrats by providing information needed to make better decisions concerning pay-for-performance. It was hypothesized that differences in pay systems used within agencies such as the Department of the Treasury negatively impact federal workers' perceptions of equity and job satisfaction. In researching topics related to policy decisions, academic studies "are increasingly providing more useful guidance" (Bryson, 2010, p. S263). This quantitative study was used to explore and understand the impact of

pay banding on federal workers' perceptions of equity and job satisfaction. This study has the potential to support positive social change by providing policymakers and bureaucrats with the research necessary to make informed decisions based on valid research. Informed decisions based on valid research should lead to equitable pay and foster higher job satisfaction. The better the concerns of workers are addressed; the better federal agencies will operate. The citizenry is better served when federal agencies operate efficiently and effectively and thus retain highly skilled managers and employees. Social change from the workers' perspective is derived from agencies making informed decisions regarding pay systems used within the federal government.

Generational attitudes and perceptions were not a significant factor in assessing job satisfaction for the participants. Several studies have concluded that there are generational attitude and perception differences (Bright, 2010; Hewitt, Pijanowski, Tavano, & Denny, 2012; Twenge, 2010), while no studies have concluded that there are no differences between the generations' attitudes and perceptions. While generational differences cannot explain every perception and attitude variance, research has clearly shown that generational differences are a factor in perceptions and attitudes (Bright, 2010). The birthdates demarcating the generations vary among various studies, as shown in Table 1, which outlines the birth years associated with generational groups.

Table 1

Birth Years of Generational Groups

Source	Traditionalist years of birth	Baby Boomer years of birth	Generation X years of birth	Generation Y years of birth
Baker, 2012	1925–1942	1943–1960	1961–1981	1982–2005
Hewitt et al., 2012	1909–1945	1946–1962	1963–1980	1981–
Parry & Urwin, 2011	1925–1942	1943–1960	1961–1981	1982–
Bright, 2010	1920–1942	1943–1960	1961–1981	No data
Twenge, 2010	1925–1945	1946–1964	1965–1981	1982–1999

In the remainder of this chapter, I present background information about the genesis of pay-for-performance in the federal public sector. The problem statement defines the need for the study (Creswell, 2014). A purpose statement is used to establish the intent of the study (Creswell, 2014). The purpose statement is followed by the study's research questions, hypotheses, theoretical framework, operational definitions, assumptions, delimitations, and significance.

Background

President Carter's Civil Service Reform Act of 1978 (CSRA) brought pay-for-performance into the federal public sector (Park & Berry, 2012). After CSRA was signed into law on October 13, 1978 (CSRA, 1978), municipalities and several European countries and their municipalities followed the lead of the U.S. federal government (Park & Berry, 2012). Pay-for-performance has faced challenges and detours since the Civil Reform Act of 1978. The National Defense Authorization Act signed by President

Obama in 2009 stopped pay-for-performance for the Department of the Defense (Losey, 2010).

A major hurdle for public sector pay-for-performance is that there is no correlation between performance and pay received (Weibel, Rost, & Osterloh, 2009). Public sector pay-for-performance faces obstacles such as budget limitations, imposed quota systems regarding pay incentives, and the absence of a real source of revenue, making the program difficult to implement. A separate issue is employees' motivation and whether public sector workers are motivated in the same manner as private sector workers (Perry, Engbers, & Jun, 2009). Pay-for-performance has been researched extensively in the private sector; however, the public sector workforce has not received the same attention from researchers (Perry et al., 2009). Municipal workers and educators have been the most studied groups within the public sector workforce concerning pay-for-performance. More research needs to be conducted on the federal level regarding public sector employees due to their minimal research exposure in the pay-for-performance arena.

The Baby Boomer generation is composed of people born immediately after World War II. The U.S. Census Bureau defines this generation as individuals with birth years between 1946 and 1964 (Werner, 2011). The Baby Boomer generation will be replaced by Generation X and Generation Y, who are both currently in the workforce. The U.S. Government Accountability Office (GAO, 2012) reported that Baby Boomers' rate of retirement will increase from 7,600 per day on average in 2011 to 11,000 per day in 2029. This mass exodus of the Baby Boomer generation will create a void in the frontline leadership of all federal agencies. The challenges in filling these vacancies will

be to understand a multigenerational workforce and its members' perceptions of equity and willingness to work under the current policies of the federal agencies concerning compensation. The agencies compensating employees with pay-for-performance compensation systems will need to convince employees to leave behind regular scheduled pay increases under the GS pay scale and move into the management ranks in compensation programs such as pay banding, which offer no guaranteed, or scheduled, pay increases.

This study addresses pay-for-performance in the federal public sector through the generational lens of federal workers' perception of job satisfaction and equity in the pay-for-performance system—specifically, pay banding among Department of the Treasury frontline managers. "The Internal Revenue Service Restructuring and Reform Act of 1998 authorized the Secretary of the Treasury to establish a pay banding system for Internal Revenue Service employees" (Treasury Inspector General for Tax Administration [TIGTA], 2010). The IRS implemented pay banding for "senior managers in March 2001, followed by department managers in November 2001, and frontline managers in September 2005" (TIGTA, 2007, 2010). However, the frontline managers in the rest of the Department of the Treasury remain under the GS pay scale.

Statement of the Problem

The research problem that this quantitative study addressed was how pay-for-performance, specifically pay banding, effects generational cohort perceptions regarding job satisfaction and equity. Federal agencies will be stripped of a large portion of the federal workforce due to the Baby Boomer generation retiring (Office of Personnel

Management [OPM], 2011). Federal agencies are not prepared for the approaching peril of the Baby Boomer generation's departure from the workforce (Bright, 2010). Understanding the perceptions and attitudes of various generational cohorts concerning job satisfaction will be vital to avoiding a catastrophic disaster within the federal workforce (Bright, 2010; Shore & Strauss, 2012).

The portion of mission-critical employees in the IRS rose from just over 65% of the IRS workforce in 2008 to over 71% of the IRS workforce in 2012 (TIGTA, 2013). The portion of managers who would be eligible to retire was reported as 25% for fiscal year (FY) 2013, 31% for FY 2014, 37% for FY 2015, 44% for FY 2016, and 48% for FY 2017 (TIGTA, 2013). The current budgetary environment of sequestration and prolonged hiring freezes require government agencies to retain highly skilled leaders to accomplish agency missions. "Employee job satisfaction, commitment to their work, and employee perceptions of whether they are being treated fairly may at times be related to pay issues" (TIGTA, 2010, p. 5). Understanding the effects of pay banding on frontline managers' perceptions of job satisfaction and equity will be important for the IRS and other federal agencies.

Previous studies have shown that various occupations have had mixed results from pay-for-performance compensation systems in terms of employee perception of job satisfaction (Ahmad, 2010; Mondello & Maxcy, 2009). Other studies have had negative results regarding employee perception of job satisfaction relating to pay-for-performance (Shaw & Gupta, 2007). Some studies have shown positive results relating to employee perception of job satisfaction relating to pay-for-performance (Kepes, Delery, & Gupta,

2009). There have been numerous studies relating to equity and compensation systems; however, there have been no studies with a population of U.S. federal public sector employees. While existing studies provide insight into equity theory, they do not provide insight into the perceptions of federal public sector employees. In this study, I explored the gap in the literature concerning frontline managers of the Department of the Treasury, including the IRS, thereby contributing to the field of public sector management and leadership concerning pay-for-performance compensation systems and pay equity.

Generational cohort membership was the independent variable (IV), job satisfaction was the dependent variable (DV), and pay banding was the moderating and mediating variable (MV). The assumption was that generational cohort perceptions of job satisfaction would be negatively impacted by the moderating or mediating effect of pay banding when a control group of federal public sector employees who had not experienced pay banding was compared to a sample of pay banded federal public sector employees. It was expected that pay banding (MV) would have a mediating or moderating effect on job satisfaction (DV). It was also expected that turnover intention (DV) would be negatively impacted by job satisfaction (IV) among frontline managers of the IRS as compared to frontline managers within the Department of the Treasury who were not pay banded.

Pay banding was analyzed as a potential mediator to determine whether pay banding reduced the interaction between generational cohort membership and job satisfaction (Baron & Kenny, 1986) in Research Question 3. Pay banding was also analyzed as a potential moderating variable to determine whether pay banding exerted

any influence on the strength or direction of the relationship between generational cohort membership and job satisfaction (Baron & Kenny, 1986) in Research Question 4. The two separate and distinct research questions were designed to determine whether pay banding mediates the relationship between the IV and DV or moderates the relationship between the IV and DV. The tests to determine mediation and moderation are different and are described in Chapter 3.

The effect of pay-for-performance on job satisfaction was an important factor in the equity perception of federal workers compensated under pay banding compared to those who were compensated under the GS pay system. The gap in the literature concerned how pay-for-performance effects federal workers' perception of job satisfaction. The gap in the literature concerning federal workers' compensation is further exhibited by sparse research concerning the varied compensation systems used to pay the U.S. federal workforce, such as pay banding and the GS pay system. Job satisfaction perceptions may exacerbate the pending exodus of the Baby Boomer generation. In September 2007, the IRS hired a human resources contractor to access the effect of pay-for-performance on leadership positions (TIGTA, 2010). In July 2008, the contractor provided a report indicating that frontline managers did not feel valued as part of the management team (TIGTA, 2010). However, in June 2009, the contractor reported that pay-for-performance did not present negative effects on managers (TIGTA, 2010). Counterintuitive to the contractor's 2009 report, some managers were so dissatisfied that they stepped down from their management positions, which was an unexpected result of pay banding (TIGTA, 2010). This contradiction could be due to a changing workforce or

changes within the organization; however, no information asserting these assumptions or the shift in the perceptions of the employees was provided. The contractor's data are not available to the public, and the conditions under which the contractor operated and conducted its analysis are unknown.

Federal government agencies are facing a large number of retirements in the next several years due to the Baby Boomer generation reaching retirement age (Bright, 2010; OPM, 2011). The IRS faces similar circumstances. Understanding generational perceptions and the effect of compensation policy on job satisfaction will be important in replacing the frontline leaders of the Baby Boomer generation along with recruiting and retaining younger generations of leaders. Determining the effect of compensation policy decisions such as pay banding may guide policymakers in this area. Frontline managers in the IRS represent 77% of the agency's management cadre (TIGTA, 2007). TIGTA (2007) reported that "as a result, the IRS may have difficulty recruiting and retaining managers because of the impact this policy has on the managers' compensation" (p. 10). Bertelli (2007) conducted a study on turnover intentions of personnel in the IRS and Office of the Comptroller of the Currency (OCC). Bertelli used the 2002 Federal Human Capital Survey to draw his comparison; however, as the frontline managers were not pay banded until 2005 (TIGTA, 2010), they had not yet experienced the IRS form of pay-for-performance. The gap hinges on the population being studied, frontline managers of the IRS.

Purpose of the Study

The purpose of this quantitative study was to explore the generational theory that describes the relationship between generational cohort membership (independent variable) and job satisfaction (dependent variable) and to explore equity theory and the effect of pay-for-performance compensation systems, specifically pay banding (mediating or moderating variable), among IRS frontline managers (treatment group) and frontline managers of the remainder of the Department of the Treasury (control group). The independent variable of generational cohort membership was defined by the demographic question from the 2010 Federal Employee Viewpoint Survey concerning the participant's age group. The dependent variable of job satisfaction was defined by the 2010 Federal Employee Viewpoint Survey questions regarding job satisfaction, which were condensed using the variable reduction technique called exploratory factor analysis. The mediating or moderating variable was a dichotomous variable defined by whether the participant was being compensated using pay banding as the compensation method or was being compensated not using pay banding. IRS frontline managers are compensated using pay banding, and all other Department of the Treasury frontline managers are compensated using the GS pay system. This study was used to determine whether there was a statistically significant difference in the generational perception of job satisfaction and equity between frontline managers who experience pay banding and those who do not experience pay banding.

The intent of this study was to explore the effect of pay banding on generational perceptions of job satisfaction. This research was used to determine whether there are

differences between the generational cohorts and generational times cohorts in perceptions of job satisfaction. This research explored the effect of pay banding as a mediating variable and moderating variable to determine the effect of pay banding of IRS frontline managers. IRS frontline managers, the treatment group, were compared to the control group of frontline managers from the remainder of the Department of the Treasury. This quantitative study revealed that there was not a statistically significant effect on generational perceptions of job satisfaction. This study explored the differences in generational perceptions of job satisfaction using pay banding as a covariate.

The dependent variable (DV) was job satisfaction. The independent variable (IV) was the generational cohort or generational times cohort membership. The mediating variable or moderating variable (MV) was pay-for-performance, specifically pay banding. The objective of this study was to determine whether pay-for-performance, specifically pay banding, had a statistically significant effect on generational perceptions of job satisfaction and predicted turnover intentions among frontline managers of the IRS. Covariates in this study included gender and minority status.

The purpose of this study was to explore the relationship between generational perceptions and job satisfaction considering the effect of pay banding. The effect of pay banding on turnover intention was addressed in the last research question to predict the effect of pay banding on the retention of frontline managers. This study addressed the intentions underlying the implementation of pay banding, which were to recruit, retain, and motivate future leaders (TIGTA, 2007). This study did not directly address

recruitment; however, the research questions may provide insight into how pay banding effects the recruitment of frontline managers.

Research Questions

The overarching question for this study was the following: Does pay banding effect generational perceptions of job satisfaction and predict turnover intention? The research questions and hypotheses for this study were as follows:

Research Question 1 (RQ1)

Does generational theory explain differences in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

Research Question 2 (RQ2)

Does generational theory explain differences in generational perceptions regarding job satisfaction (DV) between generational times cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

Research Question 3 (RQ3)

To what extent does pay banding (MV) mediate the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey?

Research Question 4 (RQ4)

To what extent does pay banding (MV) moderate the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey?

Research Question 5 (RQ5)

Do generational perceptions (IV), minority status (IV), gender (IV), pay banding (IV), job satisfaction (IV), performance equity (IV), and work-life balance (IV) predict intent to leave the agency (DV) among frontline managers of the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

Hypotheses for RQ1

$H_0$1: There is no statistically significant difference in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$1: There is a statistically significant difference in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

Hypotheses for RQ2

$H_0$2: There is no statistically significant difference in generational perceptions regarding job satisfaction (DV) and between generational times cohorts (IV) among

frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$2: There is a statistically significant difference in generational perceptions regarding job satisfaction (DV) and between generational times cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

Hypotheses for RQ3

$H_0$3: Pay-for-performance, specifically pay banding (MV), does not mediate the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$3: Pay-for-performance, specifically pay banding (MV), significantly mediates the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

Hypotheses for RQ4

$H_0$4: Pay-for-performance, specifically pay banding, does not moderate the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$4: Pay-for-performance, specifically pay banding, significantly moderates the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

Hypotheses for RQ5

$H_0$5: No relationship exists between generational perceptions, minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance in the prediction of intent to leave the agency among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$5: A negative relationship exists between generational perceptions, minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance in the prediction of intent to leave the agency increasing the intent to leave the agency among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$5A: Generational perceptions has a significant negative effect on frontline managers' intent to leave the agency when minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5B: Minority status has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, gender, pay banding, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5C: Gender has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, pay banding, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5D: Pay banding has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5E: Job satisfaction has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, pay banding, performance equity, and work-life balance are included in the analysis.

$H_1$5F: Performance equity has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, pay banding, job satisfaction, and work-life balance are included in the analysis.

$H_1$5G: Work-life balance has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, pay banding, job satisfaction, and performance equity are included in the analysis.

Theoretical Framework

The theoretical framework for this study was Mannheim's (1952) theory of generations; however, Adams's (1963) equity theory was the foundation for this study. The focus of this study was equity theory (Adams, 1963) as viewed through the lens of the theory of generations (Mannheim, 1952). Equity theory may be used to explain perceptions of fairness from the viewpoint of the employee perceiving the fair or unfair ratio of inputs to outputs in the workplace.

Equity theory indicates that an individual (referred to as *Person*) develops a perceived ratio of his or her outcomes to inputs and compares this equity exchange ratio to his or her perception of the input-to-outcome ratio of another individual (referred to as *Other*) in an effort to determine the fairness of the comparison (Adams, 1963, 1965; Shore & Strauss, 2012; Siegel, Schraeder, & Morrison, 2008). When *Person* perceives that his or her equity exchange ratio is not equitable to the equity exchange ratio of *Other*s, then *Person* views the exchange as inequitable. *Person* is motivated to resolve the inequity and return the exchange ratio to an equitable comparison. The motivation to achieve an equitable comparison results in *Person* taking action, or actions, to seek justice.

Adams's equity theory (1963, 1965) indicates that most people want to have a high input-to-outcome ratio, or *equity exchange ratio* (Liu & Tang, 2011). Pay fairness is essential to any pay-for-performance program (Stringer, Didham, & Theivananthampillai, 2011). TIGTA (2007) stated that the purpose of the IRS converting to a pay-for-performance system was to recruit, retain, and motivate future leaders.

There are four propositions of equity theory (Adams, 1963; Msoroka, 2010). First, *Person* continually evaluates the relationship with *Other*s based on the equity exchange ratio compared to *Other*s' perceived equity exchange ratio (Huseman, Hatfield, & Miles, 1987; Msoroka, 2010). Second, if the equity exchange ratio is considered comparably unequal to that of *Other*s, then inequity exists (Huseman et al., 1987). Third, the degree of perceived inequity correlates to the degree of stress felt by *Person* (Huseman et al., 1987; Msoroka, 2010). Finally, the degree of effort exerted by *Person* to restore equity is

proportional to the level of stress, or distress, felt by *Person* (Huseman et al., 1987; Msoroka, 2010).

The approach to this study and the research questions directly tie to equity theory (Adams, 1963). The theory of generations (Mannheim, 1952) relates directly to RQ1 and RQ2. The object of these research questions was to determine whether there are generational differences within the target population that may influence the perception of job satisfaction. The remaining three research questions were primarily related to equity theory (Adams, 1963); however, the study continued to use the theory of generations (Mannheim, 1952) as a lens. RQ3 was used to determine whether pay banding mediates the perception of job satisfaction. The perception of job satisfaction reflects the perception of equity in the workplace. RQ4 was used to determine whether pay banding moderates the perception of job satisfaction. Again, the perception of job satisfaction reflects the perception of equity in the workplace. RQ5 was used to determine whether turnover intention is greater among pay banded frontline managers. This research question is also directly related to equity theory (Adams, 1963). One remedy of resolving stress caused by perceived inequity is to leaving the work situation (Adams, 1963).

Nature of the Study

This study was a quantitative study using secondary data from the 2010 Federal Employee Viewpoint Survey to explore the effect of pay banding on generational perceptions of job satisfaction. This study compared groups to determine whether generational theory explains differences in perceptions of job satisfaction for Department of the Treasury frontline managers. This study then limited the population to frontline

managers of the Department of the Treasury, as this population had two distinct groups concerning pay banding. The frontline managers in the IRS have experienced pay banding. The frontline managers in the Department of the Treasury, who are not employed by the IRS, have not experienced pay banding. Bargaining unit employees in the Department of the Treasury, including the IRS, have not experienced pay banding. Executives and senior managers in the IRS have experienced pay banding; however, the impact on these groups was negligible, as it had no significant impact on the senior managers' and executives' pay. The data used for this study were secondary survey data. The data were collected from federal public sector employees using a self-administered online questionnaire distributed by OPM. The cross-sectional data resulting from the 2010 Federal Employee Viewpoint Survey were used to answer the research questions.

The independent variable for RQ1 was generational cohort, which was defined by generational membership. The independent variable for RQ2 was generational times cohort, which was defined by the generational cohort being divided into two smaller cohorts representing the early and late halves of the generational cohort. The independent variable for RQ3 and RQ4 used both the generational cohorts and the generational times cohorts with the confounding variable of pay banding. The independent variable for RQ5 used both the generational cohorts and the generational times cohorts based on the results of RQ1, RQ2, and job satisfaction.

Table 2 shows the key variables. The dependent variable for RQ1, RQ2, RQ3, and RQ4 was job satisfaction. The dependent variable for RQ5 was turnover intention. The covariates for all of the research questions were gender and minority status. Covariates

for this study included minority status and gender, based on previous studies using the same covariates (Bright, 2010; Choi & Rainey, 2013; Stringer, Didham, & Theivananthampillai, 2011).

Table 2

Key Study Variables

Research question	Independent variable(s)	Dependent variable	Covariates
RQ1	Generational cohort	Job satisfaction	Gender Minority status
RQ2	Generational times cohort	Job satisfaction	Gender Minority status
RQ3	Generational cohort or Generational times cohort Pay banding (MV)	Job satisfaction	Gender Minority status
RQ4	Generational cohort or Generational times cohort Pay banding (MV)	Job satisfaction	Gender Minority status
RQ5	Generational Cohort or Generational Times Cohort Job Satisfaction Pay banding Performance equity Work-life balance	Turnover Intention	Gender Minority Status

The research design for this quantitative study was guided by the research questions. The research questions were clearly centered on the target population of frontline managers in the Department of the Treasury and focused on the frontline managers of the IRS. This study used data from the 2010 Federal Employee Viewpoint Survey. The data set was limited to the frontline managers of the Department of the

Treasury who participated in the survey. The data were collected by OPM through a self-administered online Likert-scale survey.

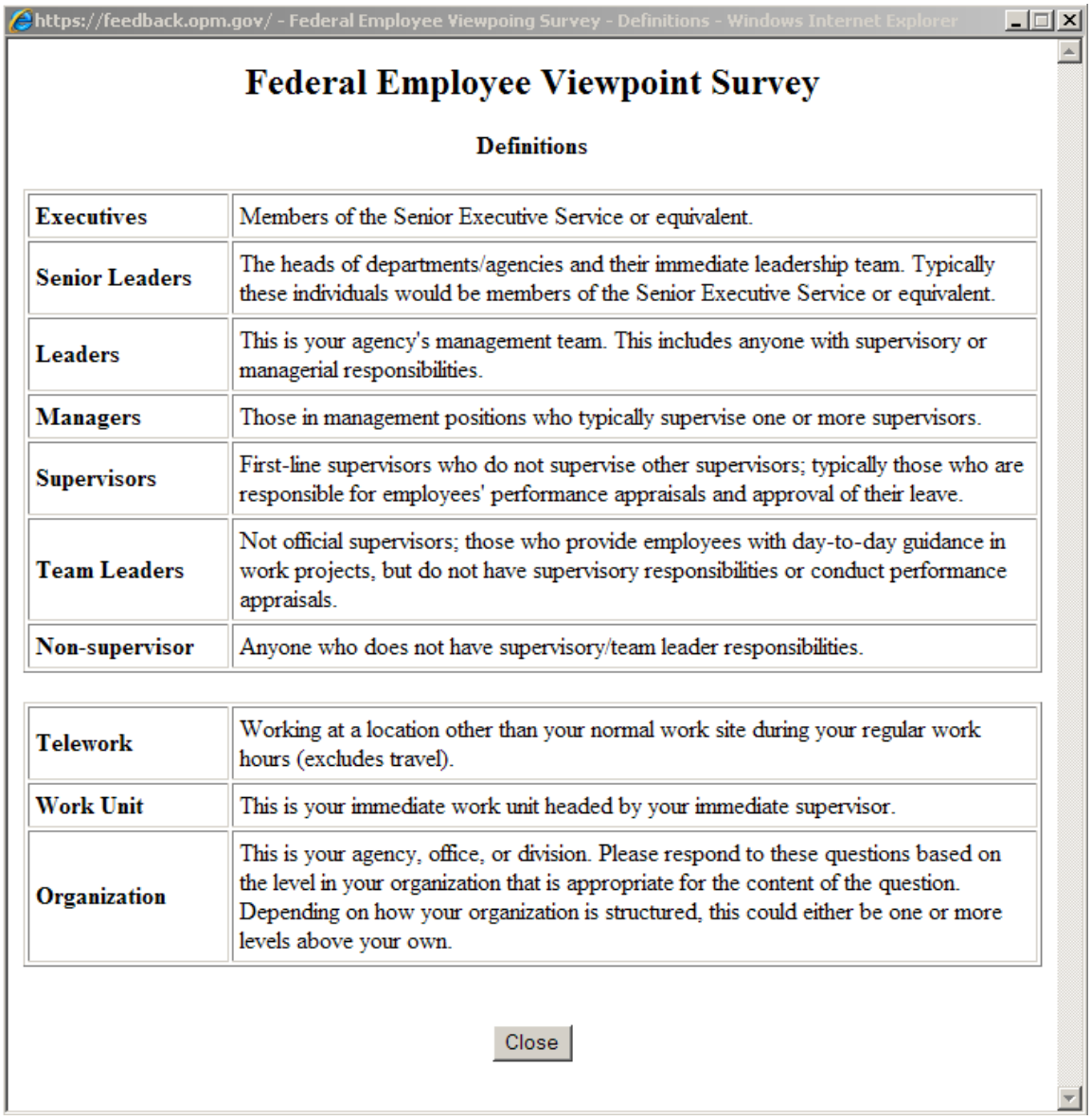
Once the data were cleaned, and the sample was limited to the target population, the data were statistically analyzed using Statistical Package for the Social Sciences (SPSS) version 22.0. The five research questions were analyzed using statistical tests commensurate with the variables involved and their characteristics. Job satisfaction, performance equity, and work-life balance were composed of numerous survey variables, which were reduced using exploratory factor analysis to single continuous variables. Validity was assessed using a confirmatory factor analysis (CFA). The other variables were categorical in nature. Statistical tests such as ANOVA, hierarchical multiple regression, mediation analysis, moderation analysis, and logistic regression were used to analyze the research questions to accept or reject the null hypothesis. Specifics concerning data analysis are discussed in Chapter 3.

Operational Definitions

Terms that have a unique definition or may leave readers needing further explanation must be defined (Creswell, 2014). The terms shown below are precisely defined to add clarification to this study. The definitions are divided into four categories: definitions used by the 2010 Federal Employee Viewpoint Survey, definitions related to the theory of generations, definitions related to this study and the variables, and definitions related to equity theory. The following operational definitions are used in this study:

Definitions Related to the 2010 Federal Viewpoint Survey

The definitions used by the 2010 Federal Employee Viewpoint Survey are important to understanding the categories of the participants and how frontline managers were identified for this study. Figure 1, Federal Employee Viewpoint Survey definitions, presents the definitions used by the survey to define participant roles within the organization. *Frontline managers* are managers who supervise bargaining unit employees but do not supervise other supervisors. Frontline managers were identified in the 2010 Federal Employee Viewpoint Survey as supervisors, as shown in Figure 1. Executives, senior leaders, leaders, managers, team leaders, and non-supervisors are excluded from this study. *Senior managers* are managers who supervise one or more supervisors. *Senior managers* were identified in the 2010 Federal Employee Viewpoint Survey as managers, as shown in Figure 1. *Bargaining unit employees* are employees who do not supervise other employees. Bargaining unit employees were identified in the 2010 Federal Employee Viewpoint Survey as non-supervisors, as shown in Figure 1.



https://feedback.opm.gov/ - Federal Employee Viewpoing Survey - Definitions - Windows Internet Explorer

Federal Employee Viewpoint Survey

Definitions

Executives	Members of the Senior Executive Service or equivalent.
Senior Leaders	The heads of departments/agencies and their immediate leadership team. Typically these individuals would be members of the Senior Executive Service or equivalent.
Leaders	This is your agency's management team. This includes anyone with supervisory or managerial responsibilities.
Managers	Those in management positions who typically supervise one or more supervisors.
Supervisors	First-line supervisors who do not supervise other supervisors; typically those who are responsible for employees' performance appraisals and approval of their leave.
Team Leaders	Not official supervisors; those who provide employees with day-to-day guidance in work projects, but do not have supervisory responsibilities or conduct performance appraisals.
Non-supervisor	Anyone who does not have supervisory/team leader responsibilities.

Telework	Working at a location other than your normal work site during your regular work hours (excludes travel).
Work Unit	This is your immediate work unit headed by your immediate supervisor.
Organization	This is your agency, office, or division. Please respond to these questions based on the level in your organization that is appropriate for the content of the question. Depending on how your organization is structured, this could either be one or more levels above your own.

Close

Figure 1. Definitions of the Federal Employee Viewpoint Survey by OPM. Reprinted with permission of the publisher (Appendix A).

Definitions Related to the Theory of Generations

A *generation* is defined as a group of individuals born in a specific period whose attitudes, perceptions, and values have been shaped by specific historical events (Mannheim, 1952). The generations in the workforce today are the Traditionalist generation, Baby Boomer generation, Generation X, and Generation Y (Lyons, Schweitzer, Ng, & Kuron, 2012). Parry and Urwin (2011) contended that these distinct operational and categorical definitions of generational, used by most studies, are absent of justification for the definitions.

Generational times cohort. A *generational times cohort* is a smaller segment of a generation and "is shaped by its own set of shared experiences" (Hewitt et al., 2012, p. 232). For example, the Baby Boomer generation is defined as participants born between 1941 and 1960. The generational times cohorts for this generation are the Early Baby Boomer cohort born, born between 1941 and 1950, and the Late Baby Boomer cohort, born between 1951 and 1960. The generations and generational times cohorts are defined below.

Traditionalist generation. *Traditionalists* are often referred to as *matures*. For this study, the members of the generation defined as Traditionalists were born between 1921 and 1940. It was assumed that this generation had exited the Department of the Treasury workforce before 2010.

Baby Boomer generation and generational times cohorts. For this study, the participants defined as the *Baby Boomer generation* were born between 1941 and 1960. The participants in the *Early Baby Boomer* generation cohort were born between 1941

and 1950. The participants in the *Late Baby Boomer* generation cohort were born between 1951 and 1960.

Generation X and generational times cohorts. For this study, the participants defined as *Generation X* were born between 1961 and 1980. The participants in the *Early Generation X* cohort were born between 1961 and 1970. The participants in the *Late Generation X* cohort were born between 1971 and 1980.

Generation Y and generational times cohorts. For this study, the participants defined as *Generation Y* were born between 1981 and 2000. The participants in the *Early Generation Y* cohort were born between 1981 and 1990. The participants in the *Late Generation Y* cohort were born between 1991 and 2000. Generation Y was removed from this study due to inadequate sample size.

The removal of Generation Y from this study obviously reduced the amount of information the study produced. However, including Generation Y would have led to questions about the reliability and accuracy of the entire study. Therefore, in keeping with *a priori* parameters set for this study, Generation Y was removed.

Definitions Related to This Study and the Variables

Job satisfaction. For this study, *job satisfaction* was defined as the perception of job satisfaction displayed in the results of the 2010 Federal Employee Viewpoint Survey after exploratory factor analysis had been performed on the latent variables of the survey, which reduced job satisfaction to one variable.

Pay banding. For this study, *pay banding* was defined as being in the treatment group of frontline managers who were compensated under the pay banding compensation system. IRS frontline managers made up this group.

Pay-for-performance. "Pay-for-performance covers a broad spectrum of compensation systems that can be clustered under two categories: merit pay plans and variable pay plans" (Mikovich, Wignor, Broderick, & Mavor, 1991, p. 3).

Definitions Related to Equity Theory

Input. *Inputs* are elements that the subjects or referents provide during the exchange. Adams (1963) described inputs as "education, intelligence, experience, training, skills, seniority, age, sex, ethnic background, social status, and very importantly, the effort" (p. 422) the subject and referent "expends on the job" (p. 422).

Output or outcome. *Output*, or *outcome*, consists of the rewards received for inputs such as "pay, rewards intrinsic to the job, seniority benefits, fringe benefits, job status and status symbols, and a variety of formally and informally sanctioned perquisites" (Adams, 1963, p. 423).

Equity exchange ratio. The *equity exchange ratio* is a result of inputs exchanged for the outcomes received for the inputs. This exchange takes place between subjects and referents. For example, a subject exchanges the subject's services, or work, for compensation from the subject's employer (Adams, 1965).

Subject. The *subject* is the individual judging the fairness of an exchange, such as an employee judging the fairness of the outcome provided by an employer compared to the input of the employee. Adams (1963, 1965) referred to the subject as *Person*.

Referent. The *referent* is the person, group, or subject at another point in time or situation that the subject is using for a comparison. Adams (1963, 1965) referred to the referent as *Other*.

Assumptions

This study was guided by several assumptions. It was assumed that the participants understood the meaning of the survey items without further clarification. It was assumed that participants answered the questions truthfully and honestly without interjecting bias or interpretation beyond the questions presented in the survey. It was assumed that the distribution of the data would be normal. It was assumed that missing data indicated that the participants did not have an opinion, did not know the answer, or had no basis for judgment. Missing data were imputed when possible. This assumption was important to the data cleaning described in Chapter 3. It was also assumed that the Traditionalist generation exited the workforce prior to 2010. It was assumed the 2010 Federal Employee Viewpoint Survey demographic category for age group 29 and under at the frontline manager level did not contain any late Generation Y cohort participants, based on the late Generation Y cohort only being eligible to enter the Department of the Treasury workforce in 1995, and it was assumed that members of this cohort would not have entered into management positions within their first 5 years. Most positions require a 4-year degree, which would further restrict the ability of late Generation Y cohort members to reach managerial positions before the survey was administered in 2010. As this study was concerned with the effect of pay banding on job satisfaction and turnover intention, the most critical assumption was that frontline managers were aware of the

different pay systems within the Department of the Treasury. If IRS frontline managers were not aware that the rest of the Department of the Treasury frontline managers remained on the GS pay system, then they might not perceive pay banding as an issue.

The assumptions listed were necessary to this study. As stated, it was assumed that the participants understood the questions and answered truthfully. This assumption was important because the survey was self-administered, and the anonymity afforded by the survey did not allow for any follow-up questions. There were assumptions related to the sample and the target population. As the survey was administered in 2010, there were no means to increase the existing sample size or change the sample composition. Therefore, the assumptions about the sample size and composition were necessary for this study. The assumption that frontline managers were aware of the compensation differences employed by the agency was important because this study explored the perceptions related to pay-for-performance, known as *pay banding*.

Scope of the Study

The scope of this quantitative study involved considering the perception of job satisfaction and turnover intention through the lens of generational cohorts to determine whether pay banding had a moderating effect, mediating effect, or no effect on the interaction between the independent variable of generational cohort and the dependent variables. Previous studies have shown mixed results concerning generational differences (Cogin, 2012) ranging from significant findings (Hansen & Leuty, 2012; Lyons, Schweitzer, Ng, & Kuron, 2012; Meriac, Woehr, & Banister, 2010) to nonsignificant findings (Twenge, 2010), whereas some studies have found more similarities than

differences between the generational cohorts (Kowske, Rasch, & Wiley, 2010; Sparks, 2012). Schay and Fisher (2013) found that attitudes toward pay-for-performance systems were more favorable after the 5th year since implementation. Therefore, the 2010 Federal Employee Viewpoint Survey data set was used, as it is approximately 5 years from the implementation of pay banding at the frontline manager level. The data used were limited to the Department of the Treasury and further limited to frontline managers for statistical testing concerning pay banding. Statistical testing was conducted using SPSS version 22.0. Sample size calculations were conducted using G*Power3.1 (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007). This study focused on the variables of generational cohort membership, generational times cohorts, job satisfaction, and turnover intention, as well as the dichotomous variable of pay banding. The dependent variables identified were addressed through multiple survey questions. Exploratory factor analysis was used to reduce the data to the three dependent variables and retained the largest variance possible.

The sample for this study was drawn from the 2010 Federal Employee Viewpoint Survey data set. The data set included participants from numerous federal agencies. Participants from agencies other than the Department of the Treasury were removed. The data set was further reduced to include only the frontline managers within the Department of the Treasury. The sample used in this study included only the frontline managers of the Department of the Treasury. The theoretical foundation for this study was the theory of generations (Mannheim, 1952) and equity theory (Adams, 1963). This study did not investigate Hertzberg's two-factor theory, Maslow's hierarchy of needs theory,

contingency theory, agency theory, or organizational theory. Equity theory and the propositions of equity theory aligned better with the intent of this study.

The potential to generalize the results of this study rests on the validity of the study. External validity allows the study's inferences to be generalized to a larger population. However, internal validity must also be present. A representative sample of the target population is required (Frankfort-Nachmias & Nachmias, 2008). The sample in this study was a probability sample, and "probability sampling is a prerequisite to generalizing from survey respondents to the survey population" (OPM, 2010, p. 23). The fact that this study used a survey administered in 2010 may generate criticism of generalization. However, the instrument fit the parameters of this study. The size of the sample was another important factor in safely extrapolating the statistical results to the entire population. The sample size was assumed to be large enough for generalization; however, Generation Y was removed due to the limited number of participants in the sample. There were only 13 participants from Generation Y in the sample.

Delimitations

Delimitations of the secondary data were considered delimitations to the current study. The data collection was restricted to participants who were full-time and permanent federal employees (OPM, 2010). The study was limited to responses of frontline managers within the Department of the Treasury pertaining to pay banding. Executives and senior managers were excluded since the pay banding did not impact these levels of management in the same manner as it did the frontline managers. IRS senior managers were pay banded in March 2001 (TIGTA, 2010). Since the IRS senior

managers were already at pay grade GS-15, the conversion to pay banding had a marginal effect on the senior managers' pay. Newer IRS senior managers could not be distinguished from those who were senior managers prior to the conversion to pay banding based on the demographics of the survey instrument.

Limitations

Limitations beyond my control were found in the definition of generational cohorts. There are many studies on generational cohorts; however, the birth date ranges vary by 2 to 3 years across studies, as shown earlier in Table 1 (Baker, 2012; Bright, 2010; Hewitt et al., 2012; Parry & Urwin, 2011; Twenge, 2010). The use of secondary data presented a limitation in the questions posed to each participant and demographic breakdowns. The Early Generation Y cohort would have consisted of participants in the demographic category of 29 years of age and under, which might have contained some late Generation Y participants. Sample size was limited by participation in the original survey and could not be expanded. The small sample of Generation Y participants resulted in the removal of Generation Y from this study. Participants without access to the Internet had to request a paper version of the survey.

This study used a secondary data set, thus reducing the bias that could have been interjected into this study. However, the instrument was a self-administered online survey. This leaves a possibility that bias from participants occurred in answering the survey questions.

Due to this study using a secondary data set, the limitations could not be reduced. The sample size was defined by the administration of the study in 2010 and was historical

in nature. The sample size could not be improved, as the sample had to be used in its current state. Demographics within the sample were also set and could not be altered.

This study could conceivably have addressed all of the agencies that are under pay-for-performance systems in the federal government. This study could have involved consideration of the generational differences of a larger population that included all agencies surveyed and all participants surveyed. However, the focus of this study was the perceptions of IRS frontline managers. This narrow gap in prior research and the need to answer the research questions posed was the basis of this study and the basis for confining this study to the described population.

Problems inherent to the selection of quantitative methods include the inability to get a detailed narrative from participants. The development of survey questions may have included bias. Preset answers forced the participants to make choices in some cases that might not have exactly reflected their answers to the questions.

A secondary data set from an existing survey was used, which eliminated the bias in the questions from me. Since the participants of the survey could not be identified, there was no prospect of achieving a follow-up narrative from the participants. Based on the research questions and the access to the target population, the 2010 Federal Employee Viewpoint Survey was the most appropriate data set for this study. Therefore, this study was a quantitative study.

Significance of the Study

For more than three decades, the U. S. federal government has courted the idea of pay-for-performance. The significance of this study rests on the empirical evidence

provided based on the target population of IRS frontline managers. The only previous studies conducted on pay banding and IRS employees were contradictory (TIGTA, 2010). Even the contractors hired to conduct an evaluation of the IRS pay-for-performance system concluded that additional research was needed (TIGTA, 2010). Peer-reviewed literature offered studies on populations such as United Kingdom factory workers (Ahmad, 2011), professors (Bozeman & Gaughan, 2011), Nigerian sales representatives (Ogunnaike et al., 2014), and female Chinese migrant workers (To & Tam, 2013), among other populations that were not part of the federal workforce. This study provides not only the results and interpretation but also the methodology. This study should provide enough information for policymakers to make informed decisions about pay-for-performance, and the effect pay-for-performance has on managerial staffing at the frontline level. The significance of this study was that it was grounded in a question posed by governmental agencies, such as TIGTA and the IRS, seeking to determine the impact of an existing policy. Specifically, this study statistically analyzed the 2010 Federal Employee Viewpoint survey to determine the effect of pay banding on job satisfaction of IRS frontline managers. The analyses provided insight into whether IRS pay-for-performance is meeting the initiatives of recruiting, retaining, and motivating highly skilled leaders within the IRS (TIGTA, 2010).

Pay-for-performance was implemented "to assist in recruiting, retaining, and motivating its managerial workforce. The IRS is at a critical juncture with many of its experienced leaders eligible to retire" (TIGTA, 2010, p. 4). The pay-for-performance initiative was approved in 1998 and implemented for the IRS frontline managers in 2005.

TIGTA (2010) stated that the IRS would need to hire one manager per day for the next 10 years to fill the abyss left by the retiring managerial workforce (TIGTA, 2010). TIGTA indicated that the IRS does not have the structure to evaluate fully the pay-for-performance program (TIGTA, 2010). TIGTA stated that pay-for-performance may be perceived as a negative factor for current and prospective managers and impact the agency's "ability to provide American taxpayers with the high-quality service they have come to expect" (2010, p. 4).

A gap in the literature existed in regarding the target population. A similar study was conducted by Bertelli (2007) regarding turnover intention in the Department of the Treasury. Bertelli discussed the effect of pay-for-performance on managers; however, Bertelli used the 2002 Federal Human Capital Survey as the data set. The administration of the 2002 Federal Human Capital Survey occurred 1 year after IRS senior managers were pay banded and 3 years before IRS frontline managers were pay banded. The target population of IRS frontline managers was not found in any other study relating to pay-for-performance in the peer-reviewed literature.

The positive social change implications for this study impact various levels. The information drawn from the study may better inform policymakers on structuring federal compensation systems by adding empirical evidence to the decision-making process. Informed policy decisions may help to maximize the job satisfaction of individual workers, providing federal agencies with more motivated and productive workers. Improved job satisfaction should reduce costs associated with employee turnover, which contributes to the cost of recruiting, the cost of training, and loss of the institutional

knowledge base (Luo, Qu, & Marnburg, 2013; TIGTA, 2010). Ultimately, the citizenry benefits from improved services provided by a more motivated federal workforce. While this study focused on Department of the Treasury frontline managers, the understanding derived from employee perceptions of equity, generational perceptions of job satisfaction, and perceptions concerning pay-for-performance may inform public sector policymakers concerning federal compensation systems and employee perceptions of equity. Since state governments and municipalities often follow the policy decisions of the federal government (Park & Berry, 2012), the social implications may affect multiple levels of government.

This study draws its significance from several areas. First, whether pay-for-performance is a good fit for the IRS and whether the policy decisions made as part of the Internal Revenue Service (IRS) Restructuring and Reform Act of 1998 were supported by empirical data. Second, this study adds to the limited literature on federal public sector employees' generational perceptions of pay-for-performance. Third, employees' perceptions of inequity in the area of compensation or pay-for-performance may discourage participation in managerial assignments, thus reducing the effectiveness of federal agencies that use pay-for-performance. Lastly, service to the citizenry could be diminished if federal agencies are not staffed by the best candidates for succession into managerial vacancies.

Summary

This study explored the effect of pay banding on generational perceptions of job satisfaction. This chapter provided an introductory view of the study and set out the plan

for investigating the effect of pay banding on generational perceptions of job satisfaction. Job satisfaction has been studied from many approaches. This study approaches job satisfaction from the aspect of Department of the Treasury frontline managers' generational perception of equity. The policy decisions put in place by the IRS Restructuring and Reform Act of 1998 have not been empirically tested with the current federal workforce. This study provided quantitative analyses to fill the gap left by the literature on the subject. The research questions and hypotheses were designed to answer critical questions about pay-for-performance and provide policymakers with information needed to make the appropriate policy decisions.

Chapter 2 provides a literature review related to Mannheim's theory of generations, Adams's equity theory, and other opposing theories. Chapter 2 also contains analyses of existing literature on pay-for-performance, generational cohort perceptions, and job satisfaction. In Chapter 3, I describe the research design and methodology employed to analyze the secondary data provided by the 2010 Federal Employee Viewpoint Survey.

Chapter 2: Literature Review

Introduction

The research problem for this quantitative study was how pay banding effects generational cohort perceptions regarding job satisfaction and retention. The Department of the Treasury, like most federal agencies, is facing a large number of retirements from within the Baby Boomer generation (Bright, 2010; Shore & Strauss, 2012). This study focused on the population of frontline managers within the Department of the Treasury. The Department of the Treasury frontline managers were divided into two distinct groups. The first group was frontline managers within the Department of the Treasury, excluding the IRS, who were compensated under the GS pay system. The second group was frontline managers within the IRS who had been compensated under a pay-for-performance system, called *pay banding*, since September 2005 (TIGTA, 2010). The effect of the Baby Boomer generation retiring combined with generational perceptions regarding job satisfaction by Generation X and Generation Y, which will be left to replace the Baby Boomer generation, was one of the lenses for this study. Pay banding was the treatment variable, or the moderating or mediating variable.

The purpose of this quantitative study was to explore equity theory and the effect of pay-for-performance compensation systems, specifically pay banding (mediating or moderating variable), among Department of the Treasury frontline managers through the lens of the generational theory that describes the relationship between generational cohort membership (independent variable) and job satisfaction (dependent variable).

The literature reviewed contained previous research relating to the theory of generations (Mannheim, 1952) and equity theory (Adams, 1963). The literature reviewed was found by using keyword searches in academic databases as described later in this chapter. The literature reviewed provided a basis for the relevance of this study. The theory of generations was used as the lens for the current study; in prior research, generational attitudes and preferences varied from one study to the next (Twenge, 2010). There were no studies found using the same population used in this study. However, generational perceptions remain relevant, especially in light of the pending exodus of the Baby Boomer generation from the multigenerational workforce (Bright, 2010).

Pay-for-performance is relevant to both scholars and practitioners today (Gerhart & Fang, 2014). There remain unanswered questions regarding pay-for-performance and the federal workforce. The IRS moved to pay banding in order to recruit, retain, and motivate future leaders (TIGTA, 2007). There were no studies found addressing the concerns of TIGTA (2007). Motivating leaders—frontline managers—was the focus of the research questions regarding job satisfaction and the effects of pay banding on job satisfaction. Performance has been positively and significantly related to job satisfaction (Nyberg, 2010). Job satisfaction has been linked to the turnover intention of employees (Pitts, Marvel, & Fernandez, 2011). Perceptions of inequity lead to lower job satisfaction and increased turnover intention (Larkin, Pierce, & Gino, 2012).

This study explored the job satisfaction differences of frontline managers of the Department of the Treasury between pay banded IRS frontline managers and frontline managers of the other agencies in the Department of the Treasury. The effect of pay

banding on job satisfaction was expected to be negative, and the consequential result in turnover intention was expected to be negative. This study is relevant in determining the perception of the effectiveness of pay-for-performance implemented by the IRS among frontline managers.

Chapter Organization

The chapter's introduction restated the research problem, restated the research purpose, and summarized the literature review. The next section describes the major sections of the chapter and the strategy used to find the relevant literature. Following is a section on the theoretical foundation for the study, which addresses the origin of equity theory, the theoretical context for equity theory, the theory of generations, the theoretical propositions and assumptions of equity theory, and equity theory's relevance to this study. The literature review is divided into three sections: methodology, peer-reviewed literature, and research design. These three sections provide a comprehensive review of the related literature with analyses of prior research outcomes, discussion of research variables, and the rationale for choosing equity theory and the theory of generations. The final section is a summary of the chapter and a transition to Chapter 3.

Preview of the Chapter's Major Sections

This chapter began with an introduction that described the research problem and purpose. The literature search strategy section describes the databases used to retrieve peer-reviewed journals related to the study. The section on literature search strategy also includes the key search terms used to locate the articles used in this study. The search was primarily confined to articles within a 7-year window from 2009 to 2015; however,

seminal articles and articles of significance published earlier than 2009 were used. The next section addresses the theoretical framework of the study. The theoretical framework of this study was composed of two theories, the theory of generations (Mannheim, 1952) and equity theory (Adams, 1963). Both theories are discussed, including their propositions and the rationale for the choice of the theoretical framework. The next section presents the theoretical framework relating to research methods employed by other researchers to inform the methodology of this study.

The largest section of this chapter is the section devoted to the literature review. The literature review is divided into two sections. The first section covers the theory of generations (Mannheim, 1952), and the second section covers equity theory (Adams, 1963). The literature review demonstrates the significance and current relevance of this study and clearly relates to the research questions and the hypotheses of this study. The literature review was an exhaustive search of seminal and current literature related to this study. The variables used in this study were supported by the literature reviewed.

The research design section provides information on methodologies and research designs related to this study. The section begins with diverse design considerations concerning Likert-scale data. These studies were significant as the data for this study were derived from a Likert-scale survey distributed by OPM. The chapter concludes with a summary, an explanation of the significance of this study in extending the knowledge of the discipline and filling a gap left by previous research, and a transition to Chapter 3.

Literature Search Strategy

An extensive search for literature relating to equity theory (Adams, 1963, 1965), job satisfaction, pay satisfaction, pay banding within the IRS, and the theory of generations (Mannheim, 1952) was performed. The information was primarily gathered through the use of the Walden University online library and Google Scholar search engine. Several tools were used from the Walden University online library. Individual database searches were conducted on ABI/INFORM Complete, Academic Search Complete, Business Source Complete, CINAHL Plus with Full Text, EBSCO, PsycArticles, PsycINFO, and Thoreau multiple database search engine.

The databases were selected based on the content supported. ABI/INFORM Complete supports topics on management practices and theory. Academic Complete and Business Source Complete support a wide range of topics and subject areas. CINAHL Plus with Full Text has information on several studies related to generational issues and pay equity in the healthcare industry. PsycArticles and PsycINFO were used to find articles related to behavioral science. Thoreau was useful to search multiple databases at one time. Google Scholar allowed comprehensive searches of scholarly articles on the Internet. Ulrich's Periodicals Directory was used to verify that journals were peer-reviewed.

Search Terms

Using the key search terms with the databases listed above and the Google Scholar search engine, I found articles addressing the two theories, equity theory and the theory of generations. The key terms used relating to equity theory were *equity theory*,

equity, *pay equity*, *pay-for-performance*, *turnover*, *procedural justice*, *distributive justice*, and *dispersion*. The key terms used in relation to the theory of generations were *generational*, *generational perceptions*, *generational attitudes*, *generations*, *Baby Boomer*, *Generation X*, *Generation Y*, and *Millennial*. The other terms used included *job satisfaction* and *pay satisfaction*.

The searches were limited primarily to the last 7 years, 2009 through 2015. Exceptions were made to include a broad array of studies, including seminal works and related works surrounding the period of the seminal works. Peer-reviewed journals were the primary source of articles; however, seminal works such as books combined with governmental reports supplemented the peer-reviewed journal articles.

Scope of Literature Search

The literature review focused primarily on peer-reviewed research from the last 7 years, 2009 through 2015. However, the seminal works were outside the search criteria and spanned from 1928 to 2008. There were some closely related articles that were included despite being outside of the initial search criteria of 7 years.

Seminal works reviewed for the theory of generations included Mannheim (1952) and Kupperschmidt (2000). Kupperschmidt added another dimension to the theory developed by Mannheim, introducing research on smaller segments of generations indicating differences within generations as well as between generations.

Seminal works reviewed for equity theory include Adams (1963, 1965) and with Adams and Jacobson (1964). Huseman, Hatfield, and Miles (1987) amplified equity

theory by introducing equity-sensitive groups. The new perspective provided by Huseman et al. did not disprove any propositions of the original theory.

There were closely related articles included from outside the 7-year search criteria. For example, Bertelli (2007) was included as the research directly related to the current study. The data used were from the 2002 Federal Human Capital Survey. Bertelli conducted his study to determine the effect of pay-for-performance on IRS managers compared to a control group, managers from the Office of the Comptroller of the Currency. However, frontline managers in the IRS had not been placed on the pay banding compensation at the time of the 2002 survey. Jamison (2004) directly related to design choices of the current study. Jamison was included to ensure that both perspectives concerning parametric testing of Likert-scale data were represented. There were sufficient peer-reviewed articles to support this study.

Theoretical Framework

The theoretical foundation for this study was predicated on equity theory (Adams, 1963) viewed through the lens of the theory of generations (Mannheim, 1952). Equity theory was presented by John Stacy Adams in the early 1960s. The generational theory was presented by Karl Mannheim in the late 1920s. There are several motivational theories that have been used to explain intrinsic and extrinsic work motivations. Intrinsic work motivation theories are represented by Maslow's (1943) hierarchy of needs; Herzberg, Mausner, and Snyderman's (1959) two-factor theory; McClelland's (1962) learned needs theory; and Alderfer's (1969) ERG theory. Extrinsic work motivation theories are represented by Skinner's (1938) reinforcement theory, Adams's (1963)

equity theory, Vroom's (1964) expectancy theory, and Locke's (1968) goal-setting theory. All of these motivational theories and the theory of generations had their genesis between 1923 and 1969, long before the majority of the Baby Boomer generation joined the workforce and before Generation Y was born. Thus, this study explored equity theory through the lens of the theory of generations.

Theoretical Genesis

Adams developed equity theory while working with General Electric in Crotonville, New York. Equity theory postulates that individuals, or *Person*, develop a perceived ratio of their outcomes to inputs and compare this ratio to their perception of another's, or *Other*'s, outcome-to-input ratio in an effort to determine the fairness of the comparison (Adams, 1963, 1965; Shore & Strauss, 2012; Siegel, Schraeder, & Morrison, 2008). The term *subject* or *Person* identifies the individual who judges the fairness of the comparison of equity exchange ratios, while the term *referent* refers to the comparison person, or *Other*. When a subject perceives that his or her equity exchange ratio is not equitable to the equity exchange ratio of the referent, then the subject views the exchange as inequitable. The subject is motivated to resolve inequity and return the exchange to an equitable comparison. The motivation to achieve equitable comparison results in the subject taking action, or actions, to seek justice.

Mannheim was born in Budapest, Hungary, in 1893. He attended Budapest University and became a sociologist. His seminal work, *The Problem With Generations* (Mannheim, 1952), was the genesis of the theory of generations (Pilcher, 1994). Generational differences are more evident today than in the first half of the 20th century.

The theory of generations has been applied to several sociological areas such as the relationship between biology and the social world, the relationship between biology and history, the relationship between personal experiences and social change, and time (Mannheim, 1952; Pilcher, 1994).

Major Theoretical Propositions

Equity Theory

There are four propositions of equity theory (Adams, 1963; Msoroka, 2010). First, *Person* continually evaluates the relationship with *Other*s based on the equity exchange ratio compared to those of *Other*s (Huseman et al., 1987; Msoroka, 2010). Second, if the equity exchange ratio is considered comparably unequal to that of *Other*, then inequity exists (Huseman et al., 1987). Third, the degree of perceived inequity correlates to the degree of stress felt by a subject (Huseman et al., 1987; Msoroka, 2010). Finally, the degree of effort exerted by a subject to restore equity is proportional to the level of stress, or distress, felt by *Person* (Huseman et al., 1987; Msoroka, 2010).

The equity exchange ratio is a result of inputs exchanged for the outcomes received for the inputs. This exchange takes place between subjects and referents. For example, the subject exchanges the subject's services, or work, for compensation from the subject's employer (Adams, 1965). The subject is the individual judging the fairness of the exchange, such as an employee judging the fairness of the outcome provided by an employer compared to the input by the employee. Adams (1963, 1965) referred to the subject as *Person*. A *referent* is the person, group, or subject at another point in time or situation that the subject is using for comparison. Adams (1963, 1965) referred to the

referent as *Other*. *Inputs* are elements that the subjects or referents provide during the exchange. Adams (1963) described inputs as "education, intelligence, experience, training, skills, seniority, age, sex, ethnic background, social status, and very importantly, the effort" (p. 422) the subject or the referent "expends on the job" (p. 422). *Outcomes* are the rewards received for inputs such as "pay, rewards intrinsic to the job, seniority benefits, fringe benefits, job status and status symbols, and a variety of formally and informally sanctioned perquisites" (Adams, 1963, p. 423). The *equity exchange ratio* is the ratio of outcomes to inputs. It is the subject's desire to maintain the balance between his or her equity exchange ratio compared to the referent's equity exchange ratio that determines how the subject reacts. Fairness motivates continued performance; however, inequity creates the need to modify behavior to regain equity or fairness.

Generational Theory

Mannheim (1952) asserted that generations should be viewed based on their unique behavior, values, and shared knowledge. This knowledge is derived from the generation's view of the world through political, social, economic, and historical events as the different generations journey through life. Generations exhibit both differences and similarities based on the influences that shape their values and attitudes (Mannheim, 1952). While Mannheim posits that generations continually change and develop, Strauss and Howe (1991) asserted that generational traits and attitudes are repeated in generational cycles.

The Strauss-Howe (1991) generational theory was developed to predict the direction of society through the repeated generational cycles of the past. This study used

Mannheim's (1952) theory of generations as the lens to view the effects of Adams's (1963, 1965) equity theory; however, many elements of the Strauss-Howe generational theory are relevant to the values and attitudes of Generation X.

Theoretical Selection Rationale

Adams's equity theory (1963, 1965) is not merely about determining if inputs and outcomes are balanced. Equity theory is a complex theory about the perceptions of equity concerning comparative views of a subject as the subject perceives the equitable treatment compared to referents. The consequences of the comparison may result in action, or actions, taken to achieve justice and restore equity. The complex and dynamic nature of individual's perceptions of equity move the theory beyond simple ratios.

Generational differences relating to work attitudes have received a large amount of attention (Parry & Urwin, 2011; Twenge, 2010). Organizations are hiring increased numbers of younger workers making the workforce more generationally diverse (DeHauw & DeVos, 2010; Twenge, 2010). Hiring, retention, and management practices used 30 years ago are no longer viable due to the workforce diversity (Pitts, Hicklin, Hawes, & Melton, 2010). One deficiency among generational studies is that they are cross-sectional (Parry & Urwin, 2011; Twenge, 2010). Research has shown more similarities than differences, and differences are often inconsistent from one study to the next (Parry & Urwin, 2011; Kowske et al., 2010).

Adams's equity theory (1963, 1965) states most people want to have a high input to outcome ratio, or equity exchange ratio (Liu & Tang, 2011). Pay fairness is essential to any pay-for-performance program (Stringer, Didham, & Theivananthampillai, 2011).

TIGTA (2007) cites the purpose of the IRS converting to a pay-for-performance system was to recruit, retain, and motivate future leaders.

Equity theory compared to other motivational theories provides a more fluid and dynamic view of motivation than motivational theories that view only the individual employee. Equity theory shares similarities with the theories presented by Maslow (Msoroka, 2010) and Herzberg. However, equity theory provides for a greater understanding of awareness and cognizance of the broader situation. Equity theory allows for critical comparisons of an individual's situation with referents more than earlier motivational theories. Adams (1963) describes the genesis of equity theory by crediting Festinger's (1957) work on cognitive dissonance and Holman's (1961) work on distributive justice. Skinner's (1953) reinforcement theory is similar to equity theory in that behavior is reinforced to generate continuance of behavior. Equity theory generates the same sustained performance as a product of continued equity perceptions.

Previous Theoretical Applications

Initial research concerning equity theory by Adams (1963, 1965) directly relates to this study. Adams (1963) used a theoretical model from Leon Festinger (1957, as cited by Adams, 1963) to define inequity. Equity theory was based on several experiments described by Adams (1963) as supporting evidence, and later studies provide empirical support for equity theory (Adams & Jacobsen, 1964; Adams & Rosenbaum, 1962; Ahmad, 2011; Homans, 1953; Liu & Tang, 2011; Murtaza, Shad, Shahzad, Shah, & Khan, 2011; Singh & Loncar, 2010). Equity theory has garnered much attention recently across the private and public sector (Al-Zawahreh & Al-Madi, 2012).

Equity theory, procedural justice, and distributive justice are used to better understand whether inequities impact organizations. Various aspects of equity theory and justice theories have been tested. Ma and Roese (2013) tested the quantifiable effect of outcomes. Their study revealed that the format of the outcome, or reward, plays an important part of the subject's perception of the outcome. A subject's perception determines the inequity or equity of the comparison which affirms equity theory's proposition .

Previous research has also shown that procedural justice and distributive justice were evolved from equity theory (Folger & Konovsky, 1989). There are many factors that make up a subject's perception of fairness. Procedural justice and distributive justice are important aspects of an employee's perception of an employer's fairness (Lamm & Gordon, 2010). Procedural justice refers to methods and procedures used by the organization to determine the amounts of benefits and compensation (Folger & Konovsky, 1989). Distributive justice refers to perceived fairness of the actual compensation amounts (Folger & Konovsky, 1989). These perceptions of fairness concerning outcomes are at the heart of equity theory (Adams, 1963, 1965). The employer's decisions regarding all aspects impacting an employee's perception of the organization fall within the definitions of procedural justice and distributive justice (Gelbrich & Roschk, 2011). Folger and Konovsky (1989) along with McFarlin and Sweeney (1992) found procedural justice accounted for a large variance related to predicting organizational commitment, or turnover intent. Conversely, distributive justice

accounted for a large variance related to predicting personal outcomes such as pay satisfaction or job satisfaction (Folger & Konovsky, 1989; McFarlin & Sweeney, 1992).

Literature Review Related to Methodology

Bright (2010) identified in his study that there has only been a small amount of research investigating work preferences of public employees based on age. Through a review of relevant literature, Bright established there was existing research to show age had an influence on work preferences of public employees. He proposed these findings wereexhibited in the form of generational differences. Bright also recognized there have been studies that dispute generational differences. He asserted there is no published research comparing multiple perspectives of generational theory (Bright, 2010).

To investigate generational attitudes of public employees, Bright (2010) used 349 public employees randomly selected from a large Oregon county to participate using a mail-in survey. The participants were from over a dozen public sector occupations. The participants were asked, “What year were you born?” (Bright, 2010, p. 5) to establish their generational membership. The study used age, gender, minority status, and education level as control variables. The independent variables were generations, job level, and socialization. The dependent variables were personal recognition, task meaningfulness, leadership responsibility, career advancement, professional growth, and monetary rewards. A Pearson bivariate correlation of chronological age and the independent variables revealed a significant correlation ($p < .05$) between chronological age and each independent variable. Bright used a multiple regression analysis of the control variables and independent variables to predict work preferences. The generational

cohort was found to be the best predictor of the independent variables in determining the participants work preferences (Bright, 2010). Bright's study influenced the selection of generational theory as a lens for this study.

The labor shortage continues to impact many occupations and shores up the need to better understand the motivation of Generation X and Generation Y (Bristow et al. 2011). Bristow et al. (2011) conducted a survey with 272 college students interested in a career in sales. The survey required students to be enrolled in a sales-related class within the last 12 months to participate in the study (Bristow et al., 2011). The demographic data collected was age, gender, college major, and work experience (Bristow et al., 2011). The study used "12 motivational factors which were recognition, the sense of achievement, advancement, status, pay, supervision, the job itself, job security, coworkers, personal development, fringe benefits, and working conditions" (Bristow et al., 2011). Utilizing a multivariate analysis of variance (MANOVA), Bristow et al. compared their Generation Y sample and the Generation X sample reported by Castleberry (1990) which revealed significant ($p < .05$) differences in six of 12 motivational factors. The significant differences between Generation X and Generation Y were "recognition, advancement, the job itself, job security, personal development, and working conditions" (Bristow et al., 2011). However, one limitation to the study was they used college students for the sample instead of employees in the workforce. The study conducted by Bristow et al. indicated there were differences between generational groups. It also served to solidify the use of the generational theory as a lens for the current study.

Young, Stills, Ross, and Kim (2013) conducted a study of job satisfaction among three generations of full-time professional, recreational college staff members. Using a 4-point Likert scale survey instrument, the study focused on job satisfaction (Young et al., 2013). The survey instrument was emailed to 1,990 participants and received 550 responses resulting in 503 surveys that were complete and could be used in the study (Young et al., 2013). Young et al. used exploratory factor analysis with oblique rotation to analyze the job satisfaction factors and found four factors explaining 47.9% of the variance. The study used Cronbach's alpha to determine the reliability of each factor seeking to meet or exceed .70 (Young et al., 2013). The four factors ranged from .73 to .92 establishing reliability (Young et al., 2013). Utilizing a one-way MANOVA and analysis of Wilk's lambda revealed a statistically significant difference between the generations regarding job satisfaction (F (10,928) = 2.987, p = .001) (Young et al., 2013). Each dependent variable was analyzed using univariate ANOVA with a Tukey HSD post hoc test (Young et al., 2013). The results indicated the Baby Boomer generation posed significantly higher ($p < .01$) overall job satisfaction when compared to Generation X and Generation Y (Young et al., 2013). The comparison between Generation X and Generation Y was nonsignificant (Young et al., 2013). The factor addressing supervisory support and interaction indicated no significant differences (Young et al., 2013). The factor for working conditions showed the Baby Boomer generation to be significantly ($p < .05$) different from Generation Y (Young et al., 2013). However, Generation X was nonsignificant when compared to the Baby Boomer generation and Generation Y (Young et al., 2013). The factor of work and environment results found the Baby Boomer

generation was significantly different from Generation X ($p < .01$) and Generation Y ($p < .001$); however, Generation X compared to Generation Y was nonsignificant (Young et al., 2013). The factor of resources and employee benefit results found the Baby Boomer generation was significantly different from Generation X ($p < .001$) and Generation Y ($p < .01$); however, Generation X compared to Generation Y was nonsignificant (Young et al., 2013).

The study by Young et al. (2013) clearly indicated that job satisfaction elements were perceived differently or similarly, depending on the element of job satisfaction being compared among the generational cohorts. The study by Young et al. found significant differences among the generations concerning job satisfaction. The findings support the theory of generations (Mannheim, 1952).

This study employed a methodology similar to the methodology used by Young et al. (2013). Factor analysis was conducted to reduce latent variables to three factors. The resulting factors were analyzed using ANOVA and hierarchical multiple regression.

Choi (2009) conducted a study of turnover intention among federal employees using data from the 2004 Federal Human Capital Survey. The study found that job satisfaction had a mediating effect on turnover intention that was statistically significant ($p < .001$) (Choi, 2009). There has been limited empirical testing of the mediating effects of job satisfaction on turnover intention. The study used indexed variables and hierarchical regressions to test the data (Choi, 2009).

The study by Choi (2009) provided job satisfaction questions from the survey for a job satisfaction index variable. The index variable was achieved by combining eight of

the survey items using PCA with varimax rotation (Choi, 2009). The job satisfaction factor loading reported a Cronbach's alpha of .923 (Choi, 2009). The questions from the survey are shown in Table 3.

Table 3

Job Satisfaction Questions for the Index Variable

2004 Federal Human Capital Survey question number	Survey question	2010 Federal Employee Viewpoint Survey question number
65	Considering everything, how satisfied are you with your job?	69
67	Considering everything, how satisfied are you with your organization?	71
59	How satisfied are you with your involvement in decisions that affect your work?	63
61	How satisfied are you with the information you receive for doing a good job?	64
62	How satisfied are you with the policies and practices of your senior leaders?	66
63	How satisfied are you with your opportunity to get a better job in your organization?	67
64	How satisfied are you with the training you receive for your present job?	68

Note. The questions were used by Choi (2009) to create a job satisfaction index from the 2004 Federal Human Capital Survey. The same questions used by Choi are included in the 2010 Federal Employee Viewpoint Survey; however, the question numbers are different.

The study by Choi (2009) related to all of the research questions in this study. The definition of job satisfaction impacts every research question in this study. The

implications of the relationship between job satisfaction and turnover intention suggest that the null hypothesis for RQ5 would be rejected, which was found to be the case. The use of exploratory factor analysis to transform ordinal data into continuous data for use with hierarchical regression offers a parametric solution to analyzing the data from a Likert scale instrument such as the 2010 Federal Employee Viewpoint Survey. The same mediation analysis was used for RQ3.

Day (2012) intended to study 3,000 participants at a Midwestern utility company. However, her sample size was reduced to 804 nonunionized participants due to collective bargaining agreements and differing pay practices between union and nonunion workers (Day, 2012). Day used mail in 5-point and 7-point Likert scales in two surveys to collect data concerning organization commitment and pay satisfaction, receiving approximately a 30% participation rate. Predictor variables were perceived communication concerning the pay level determination and perceived policies regarding pay secrecy (Day, 2012). Pay equity was the mediator variable (Day, 2012). The outcome variables were affective organizational commitment, pay satisfaction, and discussion of pay (Day, 2012). Day used Sobel's test through regression to test the significance of the mediation effect of pay equity. Day reported that pay level satisfaction variable and pay administration satisfaction variable were fully mediated by pay equity, while affective organizational commitment was only partially mediated (Day, 2012).

The fact that pay equity was found to mediate several variables including pay satisfaction was a central theme (Day, 2012). These findings were relative to determining if the dichotomous variable pay banding (0 = not pay banded, 1 = pay banded) mediates

the relationship between generational perceptions and job satisfaction. Day's study used the PCA limited to five components, varimax rotation, to reduce the multi-item survey into fewer variables. The principle component analysis accounted for 63% of the variance.

Day (2012) used equity theory to explain the perceptions of fairness by the participants. Job satisfaction and intention to stay are two key attitudes predicted by pay equity (Day, 2012). The fact that the study found pay equity to mediate affective organizational commitment, turnover intent, directly relates to RQ5. Mediation of pay level satisfaction relates to some degree with RQ3 concerning job satisfaction.

Siji and Rajagopal (2013) used snowball sampling to arrive at a sample of 60 respondents from a leading newspaper in Malayalam. The study participants were 10% Traditionalist, 40% Baby Boomer generation, 33.3% Generation X, and 16.7% Generation Y (Siji & Rajagopal, 2013). ANOVA was used to analyze if there were differences between the groups (Siji & Rajagopal, 2013). Significant differences were found in 10 of 13 variables tested (Siji & Rajagopal, 2013). The results indicated statistically significant differences for the following variables: interest in overtime, family constraints on work, working in groups, challenges in the job, accepting younger supervisors, work-life balance, working in shift, learning new technology, attitudes toward work, and efficiency with computers (Siji & Rajagopal, 2013). Nonsignificant variables were valuing of the present job, accepting new work policies, and handling many tasks (Siji & Rajagopal, 2013). Researchers found that Generation X and the Baby

Boomer generation were more similar than any other two generations (Siji & Rajagopal, 2013).

The study by Siji and Rajagopal (2013) showed the utility of the ANOVA in determining group differences, especially generational differences. The current study used ANOVA to determine whether there are generational differences between the generational groups within the frontline managers of the Department of the Treasury.

Singh and Loncar (2010) performed a study utilizing data from 200 registered nurses to investigate the relationships of turnover intent, job satisfaction, and pay satisfaction. Singh and Loncar used regression to analyze the data collected. The dependent variable was turnover intent. Model 1 was used as a control model, including only demographic information such as the number of years in the nursing profession, education, and marital status (Singh & Loncar, 2010). Model 2 added the variable pay level causing a significant change of .07 in adjusted R^2. Similar significant finding resulted from adding job satisfaction ($\beta = -.49$, $p < .001$, $R^2 = .37$, adj. $R^2 = .31$) (Singh & Loncar, 2010). While this study focused on the dependent variable of turnover intent, it indicated how job satisfaction affects turnover intent and illustrated the impact of intrinsic and extrinsic factors within the framework of equity theory (Singh & Loncar, 2010). The methodology used by Singh and Loncar are directly related to RQ5. Logistical regression analysis was used to answer RQ5.

Choi and Rainey (2013) used the 2006 Federal Human Capital Survey to analyze job satisfaction (DV), perceived organizational fairness (IV) and management diversity (IV) while controlling for demographic variables. Their research focused on diversity

management in the traditional minority/non-minority approach based on race (Choi & Rainey, 2013). The researchers found no consensus based on prior research (Choi & Rainey, 2013). Hierarchical regression was used to determine whether gender or race moderated the relationship between diversity management and job satisfaction (Choi & Rainey, 2013). The results reflected that job satisfaction was lower among minorities (Choi & Rainey, 2013). These findings disagreed with prior literature, which asserted minorities would have higher job satisfaction in organizations with strong diversity management programs (Choi & Rainey, 2013).

The current study sought to determine the perception of fairness among frontline managers divided by the dichotomous variable of pay banding. The study conducted by Choi and Rainey (2013) informed the selection of the dependent variable, job satisfaction. Choi and Rainey also informed the methodology with the use of hierarchical ordered logistic regression for model one based on the dependent variable being measured by a 5-point Likert scale, Federal Human Capital Survey. Choi and Rainey viewed diversity through a gender and racial lens. Diversity in the current study was viewed through a generational lens. Choi and Rainey used PCA, varimax rotation, to reduce the multiple item survey into single variables. For example, six questions pertaining to job satisfaction were reduced to a single component. This is similar to the variable reduction method employed by Day (2012).

Choi and Rainey's (2013) research on diversity and job satisfaction relates directly to RQ1 and RQ2 concerning job satisfaction perceptions of generational cohorts and generational times cohorts. The research was predicated on procedural justice and

organizational fairness. Equity theory (Adams, 1963) was the antecedent to procedural justice. The methodology employed by Choi and Rainey served as a foundation for the current study. Moderation for RQ4 was determined in a similar manner as discussed by Choi and Rainey.

Summary of Methodology

Researchers approached generational studies using Pearson bivariate correlation (Bright, 2010), MANOVA with Wilk's lambda, and ANOVA with Tukey HSD post hoc test (Bristow et al., 2011). Researchers analyzing data related to equity theory reduced the data using PCA to combine Likert scale items into a continuous variable (Choi, 2009; Choi & Rainey, 2013; Day, 2012). Hierarchical regression was then used to analyze the data (Choi, 2009; Choi & Rainey, 2013; Singh & Loncar, 2010; Stringer et al., 2011). Day (2012) used the Sobel test to determine mediation after performing a regression to obtain the input for the Sobel test.

Pearson bivariate correlation offers the researcher a method of determining if there is a significant linear correlation, but not causation (Field, 2009). The test is not as robust as other tests and is often misleading if outliers are present, or the distribution is not normal (Field, 2009). MANOVA is best suited for data with two or more moderately correlated dependent variables. MANOVA does not work well with highly correlated dependent variables or variables that indicate a low correlation. A correlation above .7 may cause problems with the MANOVA. More than a few outliers will also cause problems with MANOVA results. The ANOVA is the univariate form of MANOVA. The

ANOVA is not robust to outliers or non-normal distributions. Decisions regarding methodology are discussed in Chapter 3.

Selection of Variables

Literature reviewed regarding the theory of generations focused predominately on attitudes of a cohort of people belonging to one generation or another (Cogin, 2012; Gibson et al., 2009; Hansen & Leuty, 2012; Kowske et al., 2010; Kupperschmidt, 2000; Lyons et al., 2012; Mannheim, 1952; Meriac et al., 2010; Parry & Urwin, 2011; Sparks, 2012; Twenge, 2010; Twenge, Campbell, Hoffman, & Lance, 2010). Attitudes are derived from values, assumptions, beliefs, and lived experiences (Clawson, 2011). Based on the theory of generations (Mannheim, 1952), generational cohorts and generational times cohorts were selected as the lens for this study. This selection made generational cohort membership and generational times cohort obvious variables.

Equity theory (Adams, 1963) is based on the perception of equity in the exchange of input, or effort, for the outcome, or reward, provided by an employer (Adams, 1963). A predominant number of studies on equity theory (Adams, 1963) used job satisfaction as the variable to measure if the perception of the equity exchange ratio was equitable (Ahmad, 2011; Al-Zu'bi, 2010; Camgoz & Karapinar, 2011; Haar & Spell, 2009; Ismail et al., 2011; Liu & Tang, 2011; Larkin et al., 2012; Loi, Diefendorff, & Yang, 2009; Murtaza et al., 2011; Nyberg, 2010; Ogunnaike et al., 2014; Schay & Fisher, 2013; To & Tam, 2013). Some researchers studied pay satisfaction as the dependent variable (Al-Zawahreh & Al-Madi, 2012; Belle & Cantarelli, 2014; Carreher, 2011; Cloutier, Morin, & Renaud, 2013; Day, 2012; Till & Karren, 2011; Tudor, 2011; Wang et al., 2010), while

other researchers included both job satisfaction and pay satisfaction as variables (Bozeman & Gaughan, 2011; Gerhart & Fang, 2014; Hofmans et al., 2013; Sardzoska & Tang, 2012; Pitts et al., 2011). Job satisfaction and pay satisfaction are closely related and difficult to distinguish. This study used the variable of job satisfaction which was inclusive of pay satisfaction.

Turnover intention was another widely studied variable (Carreher, 2011; Haar & Spell, 2009; Larkin et al., 2012; Nyberg, 2010; Pitts et al., 2011; Shields, Scott, Bishop, & Goelzer, 2012; Shore & Strauss, 2012; Soltis, Agnessens, Sasovova, & Labianca, 2013; Wang et al., 2010). Turnover intention was a variable used to measure an individual's intention to leave the organization. Turnover intention is included in this study as a variable as retention was one of the objectives of moving the IRS to a pay-for-performance compensation system (TIGTA, 2007). One of equity theory (Adams, 1963) propositions states that perceptions of unresolved inequity can lead to *Person* leaving an organization.

Theory of Generations Literature Review

Mannheim (1952) wrote an essay,*The Problem of Generations,* launching his theory of generations. Mannheim hypothesized three defining elements of a generation. The elements Mannheim used were the cohort, generational units, and timing of events. Mannheim proposed that a generation was more than people sharing a range of birth years. He articulated a definition surrounding the events that effect the generation including the subunits of the generation (Mannheim, 1952).

Differences in generations inherently impact attitudes based on the set of values and lived experiences of the person providing their perception. Generational differences and similarities affect the perception concerning attitudes and values. It is these differences or lack of differences that define the responses of participants.

Generational differences and similarities are lived experiences that affect decisions and perceptions. RQ1 and RQ2 accessed whether differences in the sample concerning job satisfaction were statistically significant based on generational cohorts and generation subunits, or generational times cohorts.

Beyond the seminal work by Mannheim (1952) concerning generational theory, Kupperschmidt (2000) offers a different view reducing the generations to smaller segments within each generation. The generational theory has been studied in many ways and perspectives. The literature reviewed for generational theory relates to the current study as a whole. However, the generational theory directly relates to RQ1 and RQ2. The theory of generations is the lens for this study and ,therefore, affects all of the research questions in this study.

RQ1: Does the generational theory explain the differences in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

RQ2: Does generational theory explain differences in generational perceptions regarding job satisfaction (DV) between generational times cohorts (IV) among frontline

managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

RQ3: To what extent does pay banding (MV) mediate the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey?

RQ4: To what extent does pay banding (MV) moderate the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey?

RQ5: Does generational perceptions (IV), minority status (IV), gender (IV), pay banding (IV), job satisfaction (IV), performance equity (IV), and work-life balance (IV) predict the intent to leave the agency (DV) among frontline managers of the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

Kupperschmidt (2000) lays out the definitions used in the current study. Kupperschmidt defined Traditional Generation as born before 1940, Baby Boomer generation as born between 1940 and 1960, and Generations X as born between 1960 and 1980. Kupperschmidt recognized that the broad definition of generations encompassed too many shared experiences and that during a generational span the beginning of a generation and the end of a generation may not have as much in common as smaller segments of the generation. Kupperschmidt termed these smaller segments as times. The

generational times were believed to be divided into five to seven year periods constituting a first wave, core group, and the last wave (Kupperschmidt, 2000).

This seminal work (Kupperschmidt, 2000) adds another dimension to generational theory. Baby Boomer generation transitions from being defined as workaholics to a more simplistic view of work and success resembling Generation X. It was the varying views contained in the generational grouping that led Kupperschmidt to define the generations further into generational times cohorts. Generation X appears to be more resistant to authority; however, this may be due to their focus on the present and emphasis on practicality (Kupperschmidt, 2000).

RQ2 of the current study deals with the generational times, operationally defined as the generational times cohort in Chapter 1, and differences in the views of these cohorts compared to the more traditional generational groups in RQ1. It was the proposition of the current study that there would be statistically significant ($p < .05$) differences between the generations and statistically significant ($p < .05$) differences between generational times cohorts. These differences would be attributed to differences in work values and attitudes toward job satisfaction. However, the null hypothesis for RQ1 and RQ2 were accepted due to differences being statistically nonsignificant.

Meriac et al. (2010) conducted a study of generational differences in work ethic. Using data from multiple sources they collected responses from 1,860 participants (Meriac et al., 2010). The responses were originally collected from 1996 to 2008 (Meriac et al., 2010). One-way ANOVA indicated statistically significant differences between the Baby Boomer generation compared to Generation X and Generation Y on all variables

except leisure (Meriac et al., 2010). The variables included self-reliance, morality/ethics, leisure, hard work, centrality of work, wasted time, and delay of gratification (Meriac et al., 2010). The study reported that Generation X and Generation Y were statistically different concerning morality/ethics, hard work, and delay of gratification (Meriac et al., 2010). Generation X and Generation Y comparisons were nonsignificant for leisure, self-reliance, centrality of work, and wasted time (Meriac et al., 2010).

The study by Meriac et al. (2010) indicated that based on the variables studied, the Baby Boomer generation was different from Generation X and Generation Y. The study also indicated there were similarities between Generation X and Generation Y, along with identified differences (Meriac et al., 2010). RQ1 and RQ2 were concerned with the differences presented by the generational lens used to view the data for the current study. The differences between generational perceptions of the Department of Treasury frontline managers were assessed in research RQ1 and RQ2.

Twenge et al. (2010) researched generational differences using high school students' responses in a nationally representative survey conducted every year beginning in 1976. The findings were more definitive than Hansen and Leuty (2012) focusing on each generation separately. Generation Y valued leisure more than Generation X, and Generation X valued leisure more than the Baby Boomer generation (Twenge et al., 2010). Extrinsic rewards were valued most by Generation X followed by Generation Y and finally, by the Baby Boomer generation, which indicated statistically significant differences (Twenge et al., 2010). Generation X and the Baby Boomer generation did not

statistically differ; however, Generation Y valued intrinsic rewards significantly less than the other two generations (Twenge et al., 2010).

Twenge et al. (2010) relates to the current study concerning extrinsic rewards. Pay is an extrinsic reward. Twenge et al. found that all three generations were significantly different supports using generational theory as the lens for the current study. The use of generational cohorts assisted in determining the true effect of pay banding.

The study by Twenge et al. (2010) relates to RQ1 and RQ2. Both questions deal with the effect of generational differences of job satisfaction. Based on the study by Twenge et al. (2010), it was expected that the null hypothesis would be rejected for both RQ1 and RQ2, surprisingly, the null hypotheses were accepted. Indirectly the study by The study by Twenge et al. indicated that generational differences may impact the results of research RQ3 and RQ4 concerning the effect of pay banding.

Lyons et al. (2012) conducted a comparative study of the Traditionalist generation, Baby Boomer generation, Generation X, and Generation Y at various stages of their careers to determine whether there was a difference in career mobility. The sample was 105 participants recruited through snowball sampling (Lyons et al., 2012). The researcher's goal was a minimum of 10 participants from each generation (Lyons et al., 2012). The study's final composition of participants was 11 Traditionalist, 22 Baby Boomers, 40 Generation X, and 32 Generation Y (Lyons et al., 2012). The study analyzed data with ANOVA (Lyons et al., 2012). *H*1 stated generations would progressively have greater job mobility; *H*2 stated generations would progressively have greater organizational mobility; *H*3 stated generations would progressively have less

upward mobility (Lyons et al., 2012). The results indicated *H*1 and *H*2 were partially supported. *H*3 was not supported (Lyons et al., 2012).

The study presented by Lyons et al. (2012) aligns with generational theory in that generations have different values and make decisions based on their generational value system. The study by Lyons et al. directly relates to RQ1 concerning differing perceptions of job satisfaction by various generations. The current study hypothesized that there would be a statistically significant difference between the generations concerning job satisfaction. The article by Lyons et al. also had implications for RQ5 concerning turnover intentions increasing as job satisfaction decreases, which held true.

Hansen and Leuty (2012) investigated work values across three generations: Traditionalist, Baby Boomers, and Generation X. Their findings indicated statistically significant ($p < .01$) differences in generational views concerning compensation and working conditions in both male and female participants (Hansen & Leuty, 2012). The study indicated males had statistically significant ($p < .01$) differences concerning recognition among the generations, while females had statistically significant differences ($p < .001$) concerning advancement (Hansen & Leuty, 2012).

The study by Hansen and Leuty (2012) supports the use of generational cohorts as a lens to determine the effect of pay banding on job satisfaction. The differing views of the various generations definitely have an impact on perceptions concerning pay and job satisfaction. Hansen and Leuty illustrated that generational perceptions were statistically significant in the area and were vital to the current study. However, it should be noted that there were few differences in work values among the three generations.

The article by Hansen and Leuty (2012) directly relates to RQ1 and RQ2. RQ1 will be used to establish a baseline for generational perceptions concerning the variables for the current study. RQ2 focused on generational times cohort perceptions concerning the variables for the current study. The article indirectly relates to RQ3, RQ4, and RQ5 as generational cohort perceptions were used as the lens for these research questions.

Twenge (2010) conducted a comprehensive review of empirical evidence on generational differences. Of specific interest was the review concerning intrinsic and extrinsic work values, and the review of job satisfaction and intention to leave an organization. Intrinsic work values did not vary across generations (Twenge, 2010). Extrinsic work values trend upward with each subsequent generation beginning with the Baby Boomer generation (Twenge, 2010). The results concerning job satisfaction and intention to leave an organization resulted in contradictory findings (Twenge, 2010). However, there was a clear correlation between job satisfaction and the intention to leave an organization (Twenge, 2010).

Generational perceptions of job satisfaction directly impacted the majority of the research questions of this study. Intentions to leave an organization directly related to RQ5. The correlation found in other studies indicated the intention to leave an organization could be predicted based on job satisfaction. It was hypothesized that if job satisfaction was lower among pay banded managers, then it would hold true that their intention to leave the agency would be higher.

Kowske et al. (2010) conducted a study using a sample of 115,044 participants obtained over an 18 year period. The data were analyzed using a hierarchical regressions

model to determine generational effects (Kowske et al., 2010). Generation X and Generation Y participants reported higher job satisfaction when compared to the Baby Boomer generation (Kowske et al., 2010). However, results regarding pay satisfaction and turnover intention were the same across the generations and no statistically significant difference was noted (Kowske et al., 2010).

While some differences were found, similarities were more substantial than the differences. The differences in job satisfaction were small and the effect size was very small. Based on the study the null hypothesis for RQ1 and RQ2 would be accepted, which was the case. Based on the study the null hypothesis for RQ3, RQ4, and RQ5 would definitely be accepted, this was not entirely true.

In another study reporting similar results, Sparks (2012) conducted a secondary analysis of two data sets and reported no differences in job satisfaction between Baby Boomers and Generation X participants (Sparks, 2012). Sparks asserted that job satisfaction was a predictor of turnover intention (Sparks, 2012). She also explained possible reasons for there being no statistical difference between two generations such as experience, the enthusiasm of new nurses, and sample make up from a predominately rural area composed of Caucasian nurses (Sparks, 2012).

Sparks (2012) provided a gap in the literature concerning generational study. Sparks used generations as her group level instead of proceeding to the next level of generational times cohorts. While generational times cohorts are often used synonymously with generations, the current study defined generational cohorts and generational times cohorts in Chapter 1.

This study directly related to RQ1 and RQ2. The current study followed Sparks (2012) results and there were no statistically significant differences between generational cohorts in RQ1 or generational times cohorts in RQ2.

Gibson et al. (2009) were looking to examine differences in generational person values by surveying 5,057 participants from three generations. Using the Rokeach Value Survey, they surveyed 1,464 from the Baby Boomer generation (1946-1964), 1,440 from Generation X (1965-1979), and 2,153 from Generation Y (1980-present) (Gibson et al., 2009). The survey asked participants to rank in the order of importance of 18 items of terminal values and 18 items of instrumental values (Gibson et al., 2009). The Baby Boomer generation scored the top five terminal values as health, family security, self-respect, a comfortable life, and freedom (Gibson et al., 2009). Generation X and Generation Y ranked the top three terminal values as family security, health, and freedom (Gibson et al., 2009). Generation X ranked a comfortable life and inner harmony as four and five (Gibson et al., 2009). Generation Y ranked true friendship and self-respect as four and five. The instrumental values were more similar than different (Gibson et al., 2009). All three generations agreed on honesty being first and on responsible being second. All three generations included loyal, and loving was in the top six (Gibson et al., 2009). The researchers concluded the research confirmed the generational profiles from prior literature was valid and could be used by managers in addressing generational differences (Gibson et al., 2009).

RQ1 and RQ2 of the current study determined there were generational differences that impact perceptions concerning job satisfaction. Gibson et al. (2009) suggests that the

profiles of the generations found in literature are correct. Therefore, there was an expectation that RQ1 and RQ2 would reveal differences between the generations and the generational times cohorts.

Parry and Urwin (2011) investigated generational differences in work values due to the mixed results of empirical data. Parry and Urwin reviewed several cross-sectional studies. Lyons, Duxbury, and Higgins (2007, as cited by Parry & Urwin, 2011) found significant generational differences; however, Generation Y did not present significant differences from the Baby Boomer generation. Jurkiewicz (2000, as cited by Parry & Urwin, 2011) found more similarities than differences between the Baby Boomer generation and Generation X. However, there were statistically significant differences between the two generations regarding some variables such as autonomy (Parry & Urwin, 2011). The authors discussed the seminal work of Mannheim (1952) and his definition of a generation including a shared historical experience (Parry & Urwin, 2011).

The shared experience of people born to a specific era defines the generational cohorts and explains the values derived from the shared experiences. RQ1 and RQ2 determined statistically significant differences did not exist in the current sample concerning job satisfaction. Parry and Urwin (2012) indicated that the answer could go either way. The answers to RQ1 and RQ2 may have been influenced by the shared experience of becoming a manager, exposure to management courses, or even the experience of being a manager. RQ1 and RQ2 were statistically nonsignificant for the sample population with regard to job satisfaction.

Cogin (2012, p. 2268) states, “that there are marked differences in expectations and motivators across generational cohorts.” Cogin supported her statement with results from numerous studies. Cogin used 569 questionnaires from five countries for her initial sample and then reduced the sample to 407 by excluding participants born on the peripheral of the generational cohorts. Findings indicated statistically significance ($p <$ .001) between the generational cohorts for the desirability of work, pride in craftsmanship, and the moral importance of work (Cogin, 2012). Generational differences were found for asceticism, hard work, and anti-leisure (Cogin, 2012). However, no generational differences were found for the variable of independence (Cogin, 2012).

The study by Cogin (2012) adds to literature supporting that there are generational differences. This again proves salient to RQ1 and RQ2 of the current study. This seemed to support the alternative hypotheses and reject the null hypotheses for RQ1 and RQ2; however, the null hypotheses were accepted.

Equity Theory Literature Review

Adams (1963) presented “a theory of social inequity, with special consideration given to wage inequities” (p. 422). The theory is called equity theory. The theory centered primarily around wage inequity as perceived by the employee measuring their own input/outcome ratio against others input/outcome ratio or against previous experiences, other’s experiences, and what the employee thought the future may hold (Adams, 1963). Adams used several research studies such as Homans (1953) along with Adams and Rosenbaum (1962) and his own experiment from 1963, to provide empirical support for equity theory and propositions of equity theory (Adams, 1963).

The theory is a direct fit for this research study as it addresses the overarching question, does pay banding, as viewed through the generational lens, negatively affect job satisfaction and ultimately effect retention of frontline managers in the Department of the Treasury? The theory asserts, "*Person* may leave the field when he experiences inequity of any type. This may take the form of quitting his job or obtaining a transfer or reassignment or of absenteeism" (Adams, 1963, p. 428).

The seminal work by Adams (1963) relates to this study as a whole and specifically to RQ3, RQ4, and RQ5. Pay banding is the pay-for-performance system used by the IRS to compensate frontline managers, which determines the frontline manager's wage. Equity theory was developed around wage compensation. Equity theory has predominantly been used to determine the perception of equity surrounding wages. The fact that Adams studied groups rather than individual participants also aligns with the current study.

Adams and Jacobsen (1964) continued developing equity theory. They used a 3X2 experimental design and 60 male participants from Columbia University to determine the effects of wage inequity (Adams & Jacobsen, 1964). The results supported the previous work performed on the development of equity theory (Adams & Jacobsen, 1964). The productivity of overpaid piecework workers actually decreased compared to other workers (Adams & Jacobsen, 1964). This supported equity theory proposition that any perceived inequity would result in an adjustment by the person perceiving the inequity (Adams & Jacobsen, 1964). ANOVA was used to analyze the data and the analysis resulted in a statistically significant variance of the manipulated variable

dissonance (Adams & Jacobsen, 1964). Dissonance in this experiment was manipulated by the researchers to lead the participant to believe they were fully qualified, marginally qualified, and comparatively unqualified to earn the advertised rate of compensation (Adams & Jacobsen, 1964).

The gap remains to be the population and the inclusion of generational perceptions. However, equity theory was supported by the findings of Adams and Jacobsen (1964). Their findings relate to RQ3 and RQ4 concerning the effect of pay banding on the generational perceptions of job satisfaction. RQ5 is also associated since employee turnover intention is a possible result of *Person* attempting to restore equity to the situation.

Adams (1965) further establishes equity theory. He introduced distributive justice and procedural justice. Much like inequity being the true focus of equity theory, justice is only an issue when there is perceived injustices (Adams, 1965). The article did not provide a specific experiment but offered clarification of equity theory (Adams, 1965). Equity theory is still displayed in three models:

Under-compensation Inequity $\frac{\textit{Other}\text{'s Outcome}}{\textit{Person}\text{'s Outcome}} < \frac{\textit{Other}\text{'s Input}}{\textit{Person}\text{'s Input}}$

Over-compensation Inequity $\frac{\textit{Other}\text{'s Outcome}}{\textit{Person}\text{'s Outcome}} > \frac{\textit{Other}\text{'s Input}}{\textit{Person}\text{'s Input}}$

Equity $\frac{\textit{Other}\text{'s Outcome}}{\textit{Person}\text{'s Outcome}} = \frac{\textit{Other}\text{'s Input}}{\textit{Person}\text{'s Input}}$

These three models set in motion the discussion of inequity consequences (Adams, 1965). Inequity may result in *Person* altering their inputs, *Person* altering their outcomes, *Person* distorting their inputs and outcomes cognitively, *Person* leaving the field, *Person* altering or cognitively distorting *Other*'s inputs and outcomes, *Person* changing the object of their comparison, and *Person* resorting to other means of reducing the perceived inequity (Adams, 1965).

Adams (1965) relates to the dependent variable of job satisfaction. Dissatisfaction has been studied as early as the Hawthorne studies in 1939. Adams cautions, all dissatisfaction and low morale are not necessarily related to inequity or injustice. The closing statement by Adams is that additional theoretical analysis is needed to understand the overarching phenomenon of equity perceptions. This assertion is related to the current study, in efforts to understand perceptions of job satisfaction and the influences of pay banding combined with generational perceptions impacted the development of all the research questions in this study.

RQ1 and RQ2 were used to determine whether perceptions of job satisfaction differ between the generations of frontline managers within the Department of the Treasury. There was an indirect relationship between equity theory's assertions concerning perceptions being considered reality by the *Person* perceiving an experience. RQ3 and RQ4 are directly influenced by equity theory and whether or not pay banding was perceived as an inequity among the frontline managers of the IRS as affecting job satisfaction. RQ5 is directly related to equity theory in that job satisfaction was

negatively affected by pay banding which increased turnover intention and rejected the null hypothesis.

Huseman et al. (1987) offered a new construct to explain individual reactions to equity and inequity perceived by individuals. Their construct divided response behavior into three categories and stated that behavior was generally consistent from an individual; however, behavior differed among the three groups (Huseman et al., 1987). Individuals were grouped into preferences which were *benevolents*, *equity sensitives*, and *entitleds* (Huseman et al., 1987). The benevolent group was composed of individuals who prefer the comparative *Other*'s equity exchange ratio to be greater than their own (Huseman et al., 1987). The *equity sensitive* group was composed of individuals who prefer their equity exchange ratio to be equal to the ratio of the comparative *Other* (Huseman et al., 1987). The *entitleds* group was composed of individuals who prefer their equity exchange ratio to be greater than the equity exchange ratio of the comparative *Other* (Huseman et al., 1987).

The construct presented by Huseman et al. (1987) does not alter or disprove the work by Adams (1963, 1965), but rather offers further explanation of possible groups of individual preferences. Adams (1963, 1965) presents a theory based on perceptions of an individual, *Person*, comparing their equity exchange ratio to that equity exchange ratio of a comparative *Other*. Huseman et al. are conceptually linking a predisposed response of the perceptions of equity with the response to the perceptions of underlying "cultural and individual psychological areas" (p. 231). The construct developed by Huseman et al. does not support equity theory's propositions including the third and fourth equity theory

propositions concerning the distress *Person* experiences escalating with the degree of inequity experienced and efforts to restore equity. The construct developed by Huseman et al. relates to RQ5. Huseman et al. believed that equity sensitivity is a trait and introduces the personality variable. If the construct presented by Huseman et al. holds true then the null hypothesis for RQ5 would be accepted, "since not all individuals adhere to the norm of equity" (p. 228). Huseman et al. present a differing view from Adams (1963) concerning equity perceptions. However, the null hypothesis was rejected for RQ5.

A recent journal article by Gerhart and Fang (2014) demonstrated the continued relevance of pay-for-performance among both scholars and practitioners. Gerhart and Fang explored several questions related to pay-for-performance. How much pay for individual performance exists (Gerhart & Fang, 2014)? What are the positive effects of pay for individual performance (Gerhart & Fang, 2014)? What are the negative effects of pay for individual performance (Gerhart & Fang, 2014)? Gerhart and Fang proceed to analyze these questions. The sorting effect describes the change in pay strategy used to alter employee behavior by changing whom the current employees are compared to those who previously comprised the workforce (Gerhart & Fang, 2014). This is important due to the reasoning for moving the IRS to a pay-for-performance system, which was to recruit, retain, and motivate future leaders (TIGTA, 2007).

The first question, how much pay for individual performance exists, was easily answered for the current study in that management in the IRS is compensated under pay-for-performance, known as pay banding, and the remainder of the IRS and the

Department of the Treasury are compensated on the GS scale. The second and third questions deal with the positive and negative effects of pay on individual performance, which is directly related to the current study. Gerhart and Fang (2014) linked a person's changing employer with significant increases in pay as the inducement to change employers. This fits equity theory's assumption that if *Person* believes inequity exists in a future job then *Person* may leave the current employer for a more equitable situation.

The gap in literature is the consideration of viewing perceptions of pay-for-performance through the generational lens and use of a federal employee populous. The perception of pay dispersion as equitable or inequitable rests solely with the perceiver, or *Person* (Gerhart & Fang, 2014).

Stringer et al. (2011) used three survey instruments for data collection from 91 non-food retail employees from Australasia. The researcher required the participating organization to be one that used a pay-for-performance plan for employees (Stringer et al., 2011). The study found no significant correlation between pay satisfaction and extrinsic motivation; however, there was a significant positive correlation between pay satisfaction and intrinsic motivation (Stringer et al., 2011). Regression analysis using job satisfaction as the dependent variable and pay satisfaction, extrinsic motivation, intrinsic motivation as the independent variables, and controlling for demographics (gender, age, part or full time status, and years of service) indicated the demographics were not statistically significant (Stringer et al., 2011). Pay satisfaction and intrinsic motivation displayed a significant positive association with job satisfaction (Stringer et al., 2011).

Extrinsic motivation displayed a significant negative association to job satisfaction (Stringer et al., 2011).

The study by Stringer et al. (2011) drew on a central theme of equity theory concerning pay-for-performance design and pay fairness. If pay fairness is perceived as not being equitable, performance and employee motivation are diminished. The results indicated that the independent variables of intrinsic motivation and pay satisfaction had a positive association with the dependent variable job satisfaction (Stringer et al., 2011). Conversely, extrinsic motivation had a negative association with job satisfaction (Stringer et al., 2011). The aforementioned association was statistically significant (Stringer et al., 2011).

This study related to RQ3 and RQ4 concerning the effect of pay-for-performance on job satisfaction. However, the sample only contained participants that experienced pay-for-performance. The qualitative aspect of the study found pay fairness was important to the participants supporting equity theory (Stringer et al., 2011). The current study used a control group that had not experienced pay-for-performance to determine the effect of pay-for-performance.

Siegel, Schraeder, and Morrison (2008) studied equity theory and equity factors. Equity theory was predicated upon *Person*'s perception of equity or inequity in the context of the rewards received for input compared to the equity exchange ratio of another's equity exchange ratio (Adams, 1963, 1965). Organizational justice is comprised of two basic forms of justice, which are distributive justice and procedural justice. Fairness of rewards, or outcomes, is the foundation of distributive justice. The fairness of

the process that is used to deliver the rewards such as the rules and procedures is the definition of procedural justice. The study conducted by Siegel et al. had 364 student participants from a U.S. state university respond to two questionnaires. The data were analyzed using multiple regression models (Siegel et al., 2008). The findings do not support a distinction between employees regarding intrinsic versus extrinsic rewards as described by Herzberg et al. (1959). However, employees seem to distinguish between monetary rewards and non-monetary rewards (Siegel et al., 2008). The economic/noneconomic outcome label was significant (Siegel et al., 2008).

The study by Siegel et al. (2008) supported the effect on equity exchange perceptions of pay banded manager within the IRS. RQ4 (moderation) was not supported, and the null hypothesis was accepted.

Ahmad (2011) conducted a study utilizing an instrument composed of two scales ranging from 1 to 20 with 1 being the lowest level of satisfaction and 20 being the highest level of satisfaction. Ahmad studied 257 shop-floor workers at a factory in the United Kingdom. The dependent variable was job satisfaction as measured by pay satisfaction and co-worker satisfaction, which aligns with the current study using job satisfaction as a dependent variable (Ahmad, 2011). The independent variable was equity sensitivity based on equity theory (Adams, 1963; Adams, 1965). The moderating variable was group size (Ahmad, 2011). Ahmad used hierarchical regression to analyze the data in SPSS version 22.0. The results indicated group size significantly moderated the relationship between equity sensitivity and job satisfaction (Ahmad, 2011). This methodology directly

relates to RQ4, which determined pay banding moderated the relationship between generational perceptions and job satisfaction.

Sardzoska and Tang (2012) also found equity theory to be supported in their research involving 515 participants from industries including telecommunication, banking, transportation, food production, public utilities, textile manufacturers, and education. Sardzoska and Tang used a five-point Likert scale questionnaire. The findings supported equity theory in several ways. Underpayment inequity was resolved by providing employees with higher status job titles (Sardzoska & Tang, 2012). Higher pay reduced the participant's love of money and a low level of love of money was associated with higher pay satisfaction (Sardzoska & Tang, 2012). Job satisfaction was positively impacted by the work environment and a low level of love of money (Sardzoska & Tang, 2012).

If the results found by Sardzoska & Tang (2012) hold true, then equity theory would support the current study's proposition that job satisfaction diminished as the love of money increased. The love of money decreased as pay satisfaction rose and in turn increased job satisfaction (Sardzoska & Tang, 2012). The pay banded group indicated decreased level of job satisfaction compared to the group compensated on the GS scale.

The research by Sardzoska & Tang (2012) relates to RQ3, RQ4, and RQ5. Pay inequity was perceived by the participants in the pay banded group. Pay banding did not mediate but did moderate the relationship between the generational cohorts and job satisfaction. Pay banding presented a negative effect on job satisfaction and turnover intention in RQ5.

Bozeman and Gaughan (2011) surveyed 4,916 professors resulting in 1,794 respondents concerning job satisfaction. Bozeman and Gaughan stated that pay equity or the perception of pay equity plays a vital role in job satisfaction. Using OLS regression on the dependent variable of job satisfaction resulted in pay satisfaction explaining 18% of the variance. Pay satisfaction is highly predictive of job satisfaction based on this study (Bozeman & Gaughan, 2011).

Based on equity theory, perceptions of pay equity are as important as the actual pay received (Adams, 1963). While other factors influenced job satisfaction, pay was the second most significant variable (Bozeman & Gaughan, 2011). Equity theory states that *Person* will seek to reduce the stress of the inequity by achieving an equitable exchange of inputs to outcomes (Adams, 1963, 1965).

The article by Bozeman and Gaughan (2011) relates to RQ3 and RQ4 of the current study. These questions deal with whether pay banding effects job satisfaction through mediation or moderation. Since the findings held true based on Bozeman and Gaughan, the alternative hypothesis should have been supported for RQ4. Pay banding had a statistically significant effect on job satisfaction; however, the null hypothesis was accepted for RQ3 and RQ4.

Ogunnaike et al. (2014) conducted a study of 138 sales representatives in Lagos, Nigeria. The object of their study was to determine the effects of intrinsic and extrinsic motivation on job satisfaction. The regression model results indicated intrinsic motivation explained 13.9% of the variance in the dependent variable, job satisfaction (Ogunnaike et al., 2014). This variance was statistically significant ($p < .001$) (Ogunnaike et al., 2014).

The regression model results indicated extrinsic motivation explained 7.8% of the variance in the dependent variable, job satisfaction (Ogunnaike et al., 2014). This variance was statistically significant ($p < .004$) (Ogunnaike et al., 2014). The conclusion was that intrinsic and extrinsic motivation, both contributed to job satisfaction in a statistically significant ($p < .05$) manner (Ogunnaike et al., 2014).

The study by Ogunnaike et al. (2014) relates to RQ5 in the current study concerning the impact of the extrinsic variable, pay banding, on job satisfaction and turnover intention. The variances explained by the logistic regression analysis were significantly different between the two groups of the dichotomous variable, pay band. While the effect on the pay banded group was negative, the effect on job satisfaction for the non-pay banded group was positive.

To and Tam (2013) conducted a study with 577 female migrant workers from China seeking to investigate the generational differences in work values. "This cross-sectional survey study explored the differences in work values, perceived job rewards, and job satisfaction of Chinese migrant workers in different age groups" (To & Tam, 2013, p. 2). The study's theoretical basis was the generational theory (Mannheim, 1952). The researchers used PASW 17.0 to generate descriptive statistics and analyze data using multivariate analysis of covariance (MANCOVA) with post hoc comparisons of the groups (To & Tam, 2013). Hierarchical multiple regression was also employed to analyze the data (To & Tam, 2013). The study focused on the Baby Boomer generation, Generation X, and Generation Y (To & Tam, 2013).

The MANCOVA found no differences in the work values between the three generational cohorts concerning instrumental, affective, and cognitive work values (To & Tam, 2013). However, there was a significant ($p < .05$) difference between Generation X and the Baby Boomer generation in regard to extrinsic rewards (To & Tam, 2013). Social rewards were significantly ($p < .001$) different between the Baby Boomer generation and both Generation X and Generation Y (To & Tam, 2013). Job satisfaction was significantly ($p < .01$) different from Generation Y and both Generation X and the Baby Boomer generation (To & Tam, 2013). The differences involving intrinsic rewards were nonsignificant (To & Tam, 2013). Hierarchical multiple regression using job satisfaction as the dependent variable for Generation Y resulted in cognitive work values being significant ($p < .05$) accounting for 4% of the variance (To & Tam, 2013). When job rewards were added social rewards were significant ($p < .01$) accounting for 28% of the variance (To & Tam, 2013). Hierarchical multiple regression using job satisfaction as the dependent variable for Generation X resulted in income being significant ($p < .001$) and cognitive work values being significant ($p < .05$) accounting for 5% of the variance (To & Tam, 2013). When job rewards were added extrinsic rewards were significant ($p < .001$) and social rewards were significant ($p < .01$) accounting for 27% of the variance (To & Tam, 2013). Finally, hierarchical multiple regression using job satisfaction as the dependent variable for the Baby Boomer generation resulted in income being significant ($p < .01$) and cognitive work values being significant ($p < .05$) accounting for 7% of the variance (To & Tam, 2013). When job rewards were added extrinsic rewards were significant ($p < .05$) accounting for 17% of the variance (To & Tam, 2013).

To and Tam's (2013) findings indicate that cognitive work values were associated with job satisfaction in a positive manner with three generations. Perceived job rewards differ among the generational cohorts. Social rewards were associated with job satisfaction in a positive manner for Generation Y. Extrinsic job rewards had a significant association with all three generations (To & Tam, 2013).

The present study had many of the same elements as the study performed by To and Tam (2013). The study by To and Tam provided a good methodology and design format for the current study. The study by To and Tam related to RQ1, RQ2, RQ3, and RQ4. The current study differed in the population used for the sample and the ultimate goal; however, both studies sought to identify generational differences and assess the effect of job rewards on the studied population.

Hofmans et al. (2013) conducted three studies using survey data collected from a total of 1,456 employees. Multiple linear regression was used to test the data (Hofmans et al., 2013). Job satisfaction was the dependent variable; pay satisfaction and psychological reward satisfaction were the independent variables (Hofmans et al., 2013). Three studies resulted in all relationships being statistically significant (Hofmans et al., 2013).

The study conducted by Hofmans et al. (2013) showed a statistically significant relationship between job satisfaction and pay satisfaction. This finding supported equity theory in that the perception of equity affects job satisfaction. This significant relationship relates to RQ3 and RQ4. It was hypothesized based on the study by Hofmans et al. that the null hypothesis would be rejected for one of these research questions and

accepted for the other. However, the null hypothesis was accepted for both RQ3 and RQ4.

Murtaza et al. (2011) approached equity theory using the dependent variable of organizational commitment and independent variables of distributive justice and procedural justice. Murtaza et al. studied 140 Water and Power Development Authority employees in Pakistan utilizing a mailed questionnaire. However, the theory was approached in the same manner. The questionnaire was a five-point Likert scale survey. The literature review indicated that distributive justice was another term expressing employees' satisfaction with the output received from their input under Adam's equity theory. "Procedural justice refers to the fairness of decision making" (Murtaza et al., 2011, p. 75). Procedural justice was a stronger predictor of job satisfaction than distributive justice (Choi, 2011); however, both contribute to organizational commitment (Murtaza et al., 2011). Again, job satisfaction was important to this study and the definition of the dependent variable. The study used correlation, multiple linear regression, and ANOVA to analyze the data. The results indicated that the correlation between both procedural justice and distributive justice were statistically significant, (Murtaza et al., 2011). The ANOVA indicated there was no statistically significant relationship between demographic variables (age, education, the basic pay scale, and experience) and organizational commitment (Murtaza et al., 2011). The multiple linear regression also found both procedural justice and distributive justice statistically significantly correlated with the dependent variable and explained 33.8% of the variation (Murtaza et al., 2011).

Murtaza et al. (2011) used job satisfaction as the dependent variable, which supported using job satisfaction as the dependent variable for RQ1, RQ2, RQ3, RQ4 and RQ5 in the current study. The study by Murtaza et al. supported the hierarchical regressions for RQ1 and RQ2.

Al-Zu'bi (2010) conducted a study with 29 participants from an electrical company in Jordan. The focus of the study was the relationship between organizational justice and job satisfaction. Organizational justice is the term used to describe fairness in the workplace. Distributive justice is a close fit to equity theory since it describes an individual's perception of fairness regarding the outcomes received from an organization. Procedural justice is the individual's perception of the fairness of the rules and procedures used to determine the organization's process for an organizations action (Al-Zu'bi, 2010). The study found the relationship between job satisfaction and organizational justice, distributive justice, and procedural justice was a positive and statistically significant correlation (Al-Zu'bi, 2010). Using one-way ANOVA, the study indicated that age was the only statistically significant personal trait affecting organizational justice (Al-Zu'bi, 2010).

The study by Al-Zu'bi (2010) related to RQ2 and RQ4 concerning the significant correlation between organizational justice and job satisfaction. This is directly attributable to equity theory, especially distributive justice. Distributive justice and equity theory's position concerning fairness perceptions by *Person* and outcomes are identical. The study indirectly related to RQ1 and RQ2; age was the only personal trait that had a significant relationship with organizational justice. If "organizational justice is an

antecedent to job satisfaction" (Al-Zu'bi, 2010, p. 106) then age should be significant to job satisfaction.

Schay and Fisher (2013) conducted a study on pay-for-performance in the public sector considering five pay-for-performance demonstration projects in the federal government. They used nine dependent variables; pay-performance link, procedural justice, fair rating, fair pay administration, rating consideration, pay satisfaction, trust, job satisfaction, teamwork, and support for performance pay (Schay & Fisher, 2013). Procedural justice was found to be a significant aspect of the success of pay-for-performance (Schay & Fisher, 2013). The study also indicated the longer a pay-for-performance system was in place, the more accepted it became. The projects gained the largest amount of support at the five-year point (Schay & Fisher, 2013).

Schay and Fisher (2013) indicated none of the projects measured distributive justice; however, the projects did survey pay satisfaction. ANOVA results were statistically significant ($p < .001$) improvements in pay satisfaction and job satisfaction (Schay & Fisher, 2013). Post hoc testing using Dunnett's C found when each year was compared to the baseline before beginning pay-for-performance that year three and above were significantly higher regarding pay satisfaction (Schay & Fisher, 2013). However, job satisfaction showed a statistically significant trend beginning in year four (Schay & Fisher, 2013).

The study by Schay and Fisher (2013) indicated that pay-for-performance became more accepted over time and pay satisfaction and job satisfaction increased significantly over the baseline after the third and fourth years respectively. This study directly related

to the decision to use the 2010 Federal Employee Viewpoint Survey as the instrument for this study.

Loi et al. (2009) studied 231 full-time Hong Kong employees to determine the effects of organizational justice. Hierarchical regression models were used to analyze the data collected over a 25-day time period. Distributive justice significantly ($p < .05$) moderated the relationship between job satisfaction and interpersonal justice (Loi et al., 2009). Interpersonal justice is the term used to describe the interpersonal interaction with *Person*'s manager (Loi et al., 2009). The study also indicated a significant correlation between distributive justice and aggregate daily job satisfaction (Loi et al., 2009). The findings regarding procedural justice were similar to distributive justice (Loi et al., 2009).

The study conducted by Loi et al. (2009) related to RQ4 of the current study. Since distributive justice moderated the relationship between job satisfaction and interpersonal justice, it was hypothesized that pay banding moderates the relationship between generational perceptions and job satisfaction in the sample of pay banded managers of the IRS when compared to the managers of the Department of the Treasury compensated under the GS system. The relationship was not moderated and the null hypothesis for RQ4 was accepted.

Camgoz and Karapinar (2011) conducted a study of 218 employees from the insurance industry. The focus of the study was to test the mediating effect of procedural justice, or equity, on the relationship between job satisfaction and personal traits. Job satisfaction is one of the best concepts when dealing with work related outcomes (Camgoz & Karapinar, 2011). Using a convenience sample of 218 Turkish insurance

employees, Camgoz and Karapinar conducted a mediation regression. The results indicated that the relationship between extraversion, agreeableness, and neuroticism were all partially mediated by procedural justice, or equity perceptions (Camgoz & Karapinar, 2011). Job satisfaction is more a measurement of how happy an employee is concerning equity perceptions related to compensation, work environment, and performance outcomes (Camgoz & Karapinar, 2011).

The study by Camgoz and Karapinar (2011) supported equity theory as equity perceptions largely affect job satisfaction. When relating the study by Camgoz and Karapinar to the current study, it is important to note that job satisfaction was reported by Camgoz and Karapinar as one of the best concepts when dealing with work related outcomes. Job satisfaction was the dependent variable for the current study. Equity, or procedural justice, was statistically significant ($p < .001$) as a predictor of job satisfaction (Camgoz & Karapinar, 2011). This related to RQ3 and RQ4 of the current study concerning pay banding's statistically significant effects on job satisfaction.

Liu and Tang (2011) used control variables of gender, age, and tenure. The study's independent variable was public service motivation and the moderating variable was the love of money (Liu & Tang, 2011). The dependent variable was job satisfaction. Data were collected from 172 part-time Master of Public Administration students at a college in eastern People's Republic of China (Liu & Tang, 2011). The students answered questions from a six-point Likert scale type survey (Liu & Tang, 2011). The data were analyzed using regression analysis (Liu & Tang, 2011). "H_1: There is a positive relationship between public sector professionals' public service motivation and job

satisfaction" (Liu & Tang, 2011, p. 719). H_2: "The love of money moderates the relationship between public service motivation and job satisfaction in that the relationship is stronger for public servants with high love-of-money orientation than those without" (Liu & Tang, 2011, p. 721). The findings were significant and supported both H_1 and H_2 as shown in Table 4 below.

The study conducted by Liu and Tang (2011) described the love of money as moderating the relationship between public service motivation and job satisfaction. This related to RQ4 and should support rejecting the null hypothesis of RQ4; however, the null hypothesis for RQ4 was accepted in the current study. Liu and Tang's use of control variables contributed to the control variable gender being used in this study.

Table 4

Results of Regression Analysis

	Dependent variable (job satisfaction)				
	R^2	ΔR^2	ΔF	*df*	*P*
Control variables (gender, age, and tenure)	.03	.03	1.48	133	.22
Independent variables (PSM, LOM)	.17	.14	11.02	131	.00**
Interactive effect (PSM * LOM)	.21	.04	5.85	130	.02*

Note. $N = 167$; gender: female = 0, male = 1; LOM: love of money; PSM: public service motivation. The R^2_{Change} indicates that the control variables account for 3% of the variance, the IV accounted for an additional 14% of the variance, and the interaction accounted for another 4% of the variance. The F_{Change} indicates whether there is a significant improvement in the prediction of the dependent variable. Adapted from "Does the Love of Money Moderate the Relationship Between Public Service Motivation and Job Satisfaction? The Case of Chinese Professionals in the Public Sector," by B. C. Liu & T. L. Tang, 2011, *Public Administration Review*, *71*(5), 718-727. http://dx.doi.org/10.1111/j.1540-6210.2011.02411.x
* $p < .05$; ** $p < .01$.

Ismail et al. (2011) examined the relationship between performance-based pay, interactional justice, and job satisfaction. Surveys were distributed to 334 employees and 132 useable surveys were returned, 52.8% response rate (Ismail et al., 2011). Independent variables were participation in a pay-for-performance pay system and adequacy of pay (Ismail et al., 2011). Control variables were sex, age, education, position, division, length of service, salary, and citizenship (Ismail et al., 2011). The mediating variable was interactional justice, and the dependent variable was job satisfaction (Ismail et al., 2011). Pearson correlation analysis resulted in significant findings between the independent variables, mediating variable, and dependent variable (Ismail et al., 2011). Stepwise regression analysis indicated significant findings between the dependent variable, job satisfaction, and the control variable, salary, at step 2 and step 3 (Ismail et al., 2011). Both the independent variables and the mediating variable indicated a significant relationship to the dependent variable (Ismail et al., 2011). They concluded "that interactional justice does act as a partial mediating variable in the pay-for-performance models" (Ismail et al., 2011, p. 174). The study also considered the validity and reliability of measurement scales. The study used the Kaiser-Myer-Olkin (KMO) Test to measure sampling adequacy of each variable, Bartlett's Test of Sphericity, eigenvalues, factor loading, and Cronbach's Alpha to determine acceptable validity and reliability (Ismail et al., 2011).

The results of the regression between pay-for-performance and adequacy of pay with job satisfaction were positive and statistically significant indicating they were strong

predictors of job satisfaction (Ismail et al., 2011). Salary was the only control variable that was statistically significant with the dependent variable of job satisfaction (Ismail et al., 2011). These results were consistent with equity theory propositions of inequity perceptions.

The study conducted by Ismail et al. (2011) used pay-for-performance as an independent variable and job satisfaction as a dependent variable. They used a stepwise regression, a posteriori method, to regress the variables. The current study used hierarchical multiple regression as a follow-on analysis for RQ1 and RQ2. Hierarchical multiple regression was used instead of stepwise regression to explore each variable's effect on the preceding variables in the analysis. The study concluded that interactional justice mediated the relationship between pay-for-performance (IV) and job satisfaction (DV), which closely resembled RQ3.

Larkin et al. (2012) cite equity theory when discussing the effect of pay-for-performance on workers. While workers were disturbed by the variances in pay, they did make comparisons with *Other*'s inputs and outcomes as compared to their own inputs and outcomes (Larkin et al., 2012). These comparisons can lead to distress due to the perceived inequity of the situation regarding compensation (Larkin et al., 2012). Workers perceiving the inequity in compensation reported lower job satisfaction and these workers were more likely to seek new employment to resolve their distress over the inequitable situation (Larkin et al., 2012).

Larkin et al. (2012) asserted that if inequity was perceived there will be lower job satisfaction and higher potential for the worker to leave the organization. This aligned

with the current study's hypothesis that pay banding as perceived through a generational lens would decrease job satisfaction and increase intent to leave the organization. These assertions were consistent with equity theory (Adams, 1963, 1965). This hypothesis was the bedrock of RQ3 concerning the mediating and RQ4 concerning the moderating effect of pay banding.

Pitts et al. (2011) conducted a study of turnover intention among U.S. Federal Employees using data from the 2006 Federal Human Capital Survey. They used turnover intention as the dependent variable and workplace satisfaction, organizational factors as independent variables to determine the effect on turnover intention (Pitts et al., 2011). Logistic regression and Monte Carlo estimations were used to analyze the data. Job satisfaction and pay satisfaction were both statistically significant (Pitts et al., 2011). The researcher's findings were consistent with equity theory. The higher job satisfaction scored, the lower the intention to leave an agency or the federal workforce (Pitts et al., 2011). The study also found that pay satisfaction was often overshadowed and at time difficult to separate from the job satisfaction variable (Pitts et al., 2011).

The study by Pitts et al. (2011) presented classic equity theory through the results of the data analysis. As job satisfaction increased turnover intention decreased. As pay satisfaction increased job satisfaction increased. These findings relate to RQ5 in that the null hypothesis was rejected since IRS managers indicated a higher intention to leave the agency due to decreased job satisfaction. This indirectly indicated pay banding had either a mediating effect (RQ3) or a moderating effect (RQ4) on job satisfaction as experienced by frontline managers of the IRS. While pay banding was statistically significant in

predicting job satisfaction in both research questions, RQ3 and RQ4 both resulted in the null hypothesis being accepted.

Nyberg (2010) researched the relationship between performance, job satisfaction, and voluntary turnover of employees. He used the expectancy theory (Vroom, 1964) and equity theory (Adams, 1963) as his theoretical rational (Nyberg, 2010). Equity theory (Adams, 1963) suggested that when high performers receive low pay, there was a negative impact on job satisfaction and the potential for the employee to leave the organization. The sample for the study was comprised of 12,545 participants from an insurance company's employees hired after January 1, 2001 (Nyberg, 2010). Job satisfaction partially mediated performance and voluntary turnover (Nyberg, 2010). Performance was positively related to job satisfaction and was statistically significant (Nyberg, 2010).

The results of the study by Nyberg (2010) substantiated equity theory (Adams, 1963). Nyberg found undercompensated employees were dissatisfied and were more likely to leave an organization even when conditions such as unemployment were unfavorable. Nyberg also found that perceived pay-for-performance bore a statistically significant correlation with voluntary turnover.

Nyberg's (2010) study related to RQ5. This question centered on the effect of pay banding on job satisfaction and turnover in RQ5. RQ5 was concerned with whether a negative relationship existed between generational perceptions, minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance in the prediction of intent to leave the agency among frontline managers employed by the IRS as measured

by the 2010 Federal Employee Viewpoint Survey. The current study showed that pay banding reduced job satisfaction, which in turn increased the likelihood of turnover intent.

Haar and Spell (2009) conducted a study with 184 New Zealand employees and found distributive justice was significantly related to job satisfaction and turnover intentions. Hierarchical regression analysis was used to determine whether distributive justice was related to job satisfaction and turnover intention (Haar & Spell, 2009). The regression showed distributive justice had a significant ($\beta = .64$, $p < .001$) relationship with job satisfaction accounting for 34% of the variance (Haar & Spell, 2009). The regression showed distributive justice had a significant ($\beta = -.48$, $p < .001$) relationship with job turnover intention accounting for 18% of the variance (Haar & Spell, 2009).

The study by Haar and Spell (2009) related to RQ3, RQ4, and RQ5. Distributive justice had the same assertion as equity theory regarding *Person*'s perception of equity. Therefore, based on the study by Haar and Spell, the current study found that pay banding effects job satisfaction and turnover intentions were statistically significant ($p < .05$). The results of this study indicated pay banding lowers job satisfaction and increases turnover intention. The differences between pay banded managers and managers compensated with the GS system were statistically significant ($p < .05$) and the null hypothesis was rejected for RQ5.

Shields et al. (2012) described pay fairness as the description of distributive justice. Their study of 159 supermarket employees from a large U.S. supermarket licensing group focused on pay fairness and the proposed partial mediation effect of pay

fairness, or distributive justice on cooperation, organizational commitment, and the intent to leave the organization (Shields et al., 2012). The findings indicated that pay fairness mediated organizational commitment and the intent to leave the organization (Shields et al., 2012). However, pay fairness did not mediate cooperation (Shields et al., 2012). Pay fairness was positively related to organizational commitment and negatively related to the intent to leave (Shields et al., 2012).

The study by Shields et al. (2012) was related to RQ3 of the current study. The null hypothesis stated that pay banding would not mediate the relationship between generational attitudes and job satisfaction and would be rejected based the results from the study by Shields et al. RQ5 of the current study was also related to the study by Shields et al. as they found pay fairness significantly mediated the relationship between the exogenous variables and the intent to leave an organization. This translated into the null hypothesis for RQ5 being rejected.

Shore and Strauss (2012) conducted an experimental study of equity theory. Utilizing a 2x2x2 factorial design with a sample of 323 undergraduate students enrolled in an organizational behavior class at a large U.S. university (Shore & Strauss, 2012). Participants received four hypothetical scenarios manipulating various aspects of inputs, number of loans processed, and outcomes, or salary (Shore & Strauss, 2012). Participants were asked to compare their inputs and outcomes with inputs and outcomes of referent others using a 5-point Likert scale with five dependent measures (Shore & Strauss, 2012). The 5-point Likert scale range was from 1 (strongly disagree) to 5 (strongly agree) for the measures of "pay satisfaction, perceived pay fairness, work motivation, perceived

organizational support, and turnover intention" (Shore & Strauss, 2012, p. 681). The study's most significant limitations were the use of a student sample and scenario-based research. This may have introduced expectation bias on the part of the participants (Shore & Strauss, 2012).

Participants indicated that outcome (salary) inequity was more important than input (productivity) contributions (Shore & Strauss, 2012). Under rewarded participants indicated significantly higher turnover intention than participants with scenarios experiencing equity or being over-rewarded (Shore & Strauss, 2012). The study by Shore & Strauss (2012) explored equity theory. However, the findings and perceptions may have resulted from the scenario-based research instead of lived experiences of the participants. The themes of the study by Shore & Strauss directly tied to equity theory, which was the focus of the current study.

The experimental study conducted by Shore and Strauss (2012) was related to RQ5 of the current study, regarding the effect of pay banding on turnover intention. Shore and Strauss found that pay comparisons were a stronger determinant of inequity than productivity comparisons. Internal pay comparisons within the Department of the Treasury were stronger than external pay comparisons of the entire federal workforce. This influenced the decision to confine the current study to the frontline managers within the Department of the Treasury.

Wang, Chen, Hyde, and Hsieh (2010) studied the mediating effect of pay satisfaction on work values and employee turnover intention. Using 125 responses to a survey questionnaire, they sought to determine the effect of pay satisfaction on work

values and turnover intention among employees (Wang et al., 2010). Regression analysis indicated pay satisfaction explained 35.5% of employee turnover intention (Wang et al., 2010). Work values, pay satisfaction, and organizational commitment combined accounted for 56.7% of turnover intention (Wang et al., 2010). "The relationship between variables pay satisfaction (job satisfaction) and organizational commitment is variable and at times is contradictory" (Wang et al., 2010, p. 877).

The study by Wang et al. (2010) aligned with equity theory proposition that if employees perceive inequity they will seek to relieve the inequity even if it requires leaving their current employment. This directly related to RQ5 regarding turnover intention. The current study produced results indicating that turnover intention was significantly predicted by job satisfaction, and that pay banding was a significant factor.

Carreher (2011) used a longitudinal survey design with six samples from three Baltic countries totaling 456 employees and 455 business owners. Binary logistic regressions were all statistically significant regarding prediction of turnover (Carreher, 2011). The study found that equity theory considerations explained differences in turnover rates among employees, but not business owners (Carreher, 2011). Attitudes concerning benefits contributed significantly to predicting turnover intention for employees; however, this did not hold true for business owners (Carreher, 2011). The study found that pay was important in recruiting efforts, while benefits seem to play an important role in the retention of employees (Carreher, 2011). The study also indicated that cultural differences between the three countries may have affected the study (Carreher, 2011).

The study conducted by Carreher (2011) is related to RQ5 of the current study regarding the definition of the dependent variable, intent to leave. The study indicated pay satisfaction was effected by benefits. RQ5 of the current study was linked to Carreher's findings on the turnover intention. The population affected the outcome of the regression models. The study indicated that employees and business owners viewed aspects affecting turnover intention differently (Carreher, 2011).

Till and Karren (2011) conducted a study regarding individual equity, external equity, internal equity, procedural justice, and informational justice at various management levels. The results of the study found all five variables were statistically significant at each managerial level (Till & Karren, 2011). It was determined that there was a positive relationship between pay satisfaction and the individual equity, external equity, and internal equity variables making up the distributive equity portion of the study (Till & Karren, 2011). The procedural justice and informational justice variables also indicated a positive relationship with pay satisfaction (Till & Karren, 2011). The effects of the distributive justice variables were the strongest; however, managers with larger groups indicated more importance toward the procedural justice and informational justice variables (Till & Karren, 2011).

The study by Till and Karren (2011) related to RQ1, RQ2, RQ3 and RQ4 of the current study. Distributive justice showed more impact than procedural justice regarding pay satisfaction among the 52 participants from the northeast United States. Individual equity was defined as pay comparisons (Till & Karren, 2011). Internal equity was defined as internal fairness regarding jobs within the organization. External equity was defined as

fairness of compensation (Till & Karren, 2011). Procedural justice was defined as the fairness of the procedures regarding the allocation of compensation (Till & Karren, 2011). Informational justice was defined as explanations provided concerning pay allocation (Till & Karren, 2011). These definitions were an extension of equity theory posited by Adams (1963, 1965).

Belle and Cantarelli (2014) conducted an experiment using factorial surveys to analyze the impact of monetary rewards for public sector managers. The purpose of the study was to determine whether different work styles moderate the relationship between monetary rewards, the outcome, and the effort, or input (Belle & Cantarelli, 2014). Four scenarios were constructed using bonus percentages of 5%, 10%, 25%, and 50%. The researchers found that bonuses were linked to effort (Belle & Cantarelli, 2014). Pay increases linked to effort had no significant effect on public sector manager's effort intentions (Belle & Cantarelli, 2014). Bonuses had a negative impact on intrinsic motivation and intended effort with no consistency to the impact (Belle & Cantarelli, 2014). Bonuses had a positive correlation with extrinsic motivation and intended effort which increased consistently with the percentage of bonus received (Belle & Cantarelli, 2014). Belle and Cantarelli stated the "findings should serve as a cautionary tale for policymakers and public managers considering introducing pay-for-performance provisions" (p. 17).

The study by Belle and Cantarelli (2014) provided insight into RQ3 and RQ4 of the current study, and the null hypotheses were supported based on the mixed results of intrinsic and extrinsic motivation. However, their study did conclude that the bonuses

moderated the relationship between pay-for-performance and motivation. Since the moderation was negative or positive, depending on whether the effort was motivated intrinsically or extrinsically, the current study used job satisfaction as the dependent variable.

Bowman (2010) identified compensation as having implications concerning recruitment and retention. Bowman wnet on to point out the different agendas of management versus employees concerning pay-for-performance. Management often viewed pay-for-performance from a view of merit and employees viewed pay-for-performance from the perception of contribution (Bowman, 2010). One of the major stumbling blocks was that there were not enough resources to properly compensate exceptional workers and maintain equity perceptions of the average workers (Bowman, 2010).

Bowman (2010) pointed out some of the failures of pay-for-performance. However, the summary of the article rests upon his statement, “pay clearly matters” (Bowman, 2010, p. 74). The importance of pay was clearly the dominate factor in pay-for-performance. The perception of equity was compromised in an attempt to motivate the workforce as a whole instead of rewarding only those who were most deserving recognition for performance. Policy concerning pay-for-performance was contingent upon “trust in management, a valid job evaluation system, clear performance factors, consistent and meaningful funding, and accurate personnel appraisals” (Bowman, 2010, p. 74).

Hierarchical multiple regression follow-on analysis of RQ1 and RQ2 were influenced by how much pay matters. Generally, employees work to earn a wage, an extrinsic reward known as compensation. The perception of inequity due to an organization not providing an equitable exchange ratio through pay-for-performance was the basis for the follow-on hierarchical multiple regression for RQ1 and RQ2. RQ3 (mediation analysis) and RQ4 (moderation analysis) were also concerned with the effect of pay banding.

Tudor (2011) explored using pay as a motivator and equity theory. Tudor (2011, p. 95) stated that the "equity theory has stronger empirical validity than other organizational behavior theories." Equity theory posits that employees are less motivated when inequity is perceived (Adams, 1963). Comparable pay, as perceived by the employee, was an important consideration in determining equity (Tudor, 2011). An employee may view pay comparisons as internal and external in the determination of equity (Tudor, 2011). The ability to improve job skills through education was another important criterion in the perception of equity (Tudor, 2011).

The article by Tudor (2011) provided a practical application of equity theory for employees in the fast food industry. However, equity theory had the same implications for the current study. Equity theory was concerned with more than just pay. However, pay was a large reason for working. Pay equity was the basis for the current study. The issue of pay equity was related to all of the research questions in the current study.

Sa (2013) explored performance-based rewards, fairness of appraisals, and managerial efforts to make improvements to performance. The study used the 2008

Federal Human Capital Survey as the source of data (Sa, 2013). The researcher conducted 15 regressions of three dependent variables and five levels of employees (Sa, 2013). Differences were found between the varying levels of employees. The study's use of 2008 Federal Human Capital Survey questions to develop variables was significant to the current study (Sa, 2013).

Sa (2013) used the following questions to create a variable based on rewards, "promotions in my work unit are based on merit" (FHCS, 2008, Q22) and "employees are rewarded for providing high-quality products and services to customers" (FHCS, 2008, Q25). The variable for fairness of appraisals included, "in my work unit, differences in performance are recognized in a meaningful way" (FHCS, 2008, Q28) and "my performance appraisal is a fair reflection of my performance" (FHCS, 2008, Q29). Sa used ordinary least squares (OLS) regression for the research questions.

The current study used the 2010 Federal Employee Viewpoint Survey as the data source. The questions were the same as the Federal Human Capital Survey is the predecessor of the Federal Employee Viewpoint Survey. The study by Sa (2013) related to RQ5 and the variable labeled performance equity.

Soltis et al. (2013) administered a survey to 183 employees receiving 154 usable responses in return from one division and another 75 usable responses from a second division yielding 229 total usable responses to the survey. The jobs ranged from research and development, marketing, warehousing, sales, and administration positions (Soltis et al., 2013). Job satisfaction was significant ($p < .001$) in all of the hierarchical OLS regression models in determining turnover intention (Soltis et al., 2013). Distributive

justice was significant in mediating the relationship between advice giving ties within an organization and turnover intention (Soltis et al., 2013).

The study by Soltis et al. (2013) provided an indication that distributive justice, or equity perceptions, mediate the relationship between generational attitudes and job satisfaction; however, RQ1 and RQ2 did not share these findings. Their study indicated the results of the current study would be an increased turnover intention among the pay banded frontline managers in the current study. This assumption was based on the negative relationship between distributive justice and turnover intention established by Soltis et al. The variables used by Soltis et al. assisted in choosing job satisfaction and turnover intention as variables in the current study.

Al-Zawahreh and Al-Madi (2012) studied equity theory as equity theory was receiving more attention in both the public and the private sector. Al-Zawahreh and Al-Madi asserted that pay is the most important aspect of fairness among the outcome rewards. The critique of the theory rested on the proposition that *Person* compares their own input and outcome to that of referent or others to determine equity or inequity (Al-Zawahreh & Al-Madi, 2012). Unlike other theories, equity theory is very clear and straightforward concerning how inequity is determined and the potential consequential action that may be taken. Al-Zawahreh and Al-Madi found equity theory was able to make predictions concerning job satisfaction and performance equity. The major criticism of equity theory was that the theory does not account for individual differences or for cultural differences of individuals (Al-Zawahreh & Al-Madi, 2012).

The utility of equity theory described by Al-Zawahreh and Al-Madi (2012) was the primary reason the theory was selected for the current study. The article supported RQ3, RQ4, and RQ5. The article indicated equity theory can answer the proposed questions of this study and provide insight into the motivation and behavior of *Person* experiencing the perception of inequity.

Frey, Homberg, and Osterloh (2013) argued that pay-for-performance combined with outcome performance can have negative results. The negative results were more pronounced in the public sector than the private sector (Frey et al., 2013). The conditions prevalent in the public sector were not conducive to pay-for-performance models (Frey et al., 2013). Public service goals were highly ambiguous (Frey et al., 2013). The independent nature of tasks performed appeared to add to the lack of outcome control in the public service (Frey et al., 2013). Public sector managers have the challenge of balancing control measures (Frey et al., 2013). Equity theory was based on the perception of input to outcome ratio compared to others. Pay-for-performance control systems are complicated when tasks are complex and ambiguous (Frey et al., 2013). One criticism of pay-for-performance was that the extrinsic reward motivation may crowd-out the intrinsic reward motivation (Frey et al., 2013).

Frey et al. (2013) indicated that the nature of public service appears to amplify negative results of pay-for-performance. This was manifested in the results of the current study as there was a statistically significant difference between the pay banded frontline managers and the frontline managers who were not compensated under a pay-for-performance system as expected. The negative results of pay-for-performance in the

public sector indicated increased turnover intention among frontline managers of the IRS impacting RQ5. Frey et al. (2013) confirmed the gap in literature stating that the study of pay-for-performance in the public sector has been largely ignored. The current study provided empirical evidence to further the study of pay-for-performance in the public sector.

Cloutier, Morin, and Renaud (2013) conducted a regression analysis using variable pay on pay satisfaction as the dependent variable from survey data with Canadian participants from varied occupations. The regression analysis had four steps (Cloutier et al., 2013). Step one was the demographic control and other control items (Cloutier et al., 2013). Step two dwelt with eligibility to participate in variable pay (Cloutier et al., 2013). Step three addressed payout models. Step four was the model on pay-for-performance (Cloutier et al., 2013). The pay-for-performance model indicated that the pay variable was positively related to pay satisfaction among managers, and the results were statistically significant ($p < .01$). Being eligible for variable pay had no effect (Cloutier et al., 2013). However, being compensated for the effort expended raised the pay satisfaction of workers (Cloutier et al., 2013). The study by Cloutier et al. (2013) related to RQ3 and RQ4 of the current study concerning the effect of pay banding on job satisfaction. It is evident that workers place importance on both effort and performance (Cloutier et al., 2013).

Trevor et al. (2012) conducted a study using National Hockey League (NHL) teams. This study was based on archival data (Trevor et al., 2012). The study was intended to disprove inequity based criticism of pay dispersion (Trevor et al., 2012). The

researchers used regression analysis to analyze the data (Trevor et al., 2012). Pay level was statistically significant in all models; however, pay-for-performance was nonsignificant in all models (Trevor et al., 2012). Trevor et al. concluded that literature and empirical testing have served to confound the principle of equity theory. The perspective of equity is driven by *Person*'s input in the classical setting. However, pay based on seniority may act as a proxy if seniority is viewed as an acceptable substitute for actual performance. Pay-for-performance may motivate individuals; however, there are problems to contend with under pay-for-performance compensation systems. The problems often occur when performance is difficult to measure due to the complexities of the work performed and the ambiguity of measuring results (Trevor et al., 2012).

The study conducted by Trevor et al. (2012) supported RQ5 rejecting the null hypothesis in that pay banding was negatively related to job satisfaction and therefore negatively related to turnover intention among the frontline manager under the pay-for-performance compensation system.

Research Variables

The variables of the current study were based on variables presented in the literature reviewed. Generational perceptions or attitudes provided a baseline for the current study. Studies reviewed on generational perception indicated varied results and may impact other variables in the current study (Bertelli, 2006; Bright, 2010; Gibson et al., 2009; Kupperschmidt, 2000; Meriac et al., 2010). The Baby Boomer generation and Generation X viewed job satisfaction differently; however, Generation X and Generation Y viewed job satisfaction in a similar manner (Young et al., 2013). Conversely, Siji and

Rajagopal (2013) found Generation X and the Baby Boomer generation were more similar than any of the other generations. Job satisfaction was linked to the intention to leave an organization for employees with lower job satisfaction (Choi, 2009). Literature reviewed regarding job satisfaction related to both the theory of generations and equity theory. Equity theory was used extensively to determine the satisfaction or dissatisfaction of employees (Haar & Spell, 2009; Larkin et al., 2012; Nyberg, 2010; Pitts et al., 2011). Job satisfaction related directly to turnover intention, which was very important to organizations due to lose of organizational knowledge and cost of hiring and retraining.

Rationale for Research Variables

TIGTA (2007) cites the purpose of the IRS converting to a pay-for-performance system was to recruit, retain, and motivate future leaders. The pay banding variable was the focus of the current study. Pay banding was the variable that introduced the pay-for-performance policy to the Department of the Treasury (Bertelli, 2006). After a comprehensive review of seminal works and current research, it was evident that job satisfaction was central to both theories in the current study. Job satisfaction is one of the most studied variables (Locke, 1969). Equity theory propositions and current research indicate retention and motivation are linked to job satisfaction (Haar & Spell, 2009; Larkin et al., 2012; Nyberg, 2010; Pitts et al., 2011). Job satisfaction differences were found between the exiting Baby Boomer generation and Generation X (Young et al., 2013). Differences and similarities reported among the generations was the reasoning for having generational cohorts as a variable. Job satisfaction is a person's appraisal of their satisfaction with their job from an internal perception based on values, attitudes, and

beliefs (Locke, 1969). Turnover intention, or the intent to leave, was important to this study based again on the purpose of moving IRS frontline managers to the pay banding compensation system. There has been a significant amount of research on turnover intention from a generational aspect (Bertelli, 2006; Choi, 2009; Choi & Rainey, 2013; Kowske et al., 2010; Singh & Loncar, 2010; Twenge et al., 2010) and from the propositions of equity theory (Carreher, 2011; Haar & Spell, 2009; Larkin et al., 2012; Nyberg, 2010; Pitts et al., 2011; Shields et al., 2012; Shore & Strauss, 2012; Wang et al., 2010). These variables related directly to the policy decision of implementing pay banding as the compensation system used to compensate management positions in the IRS.

Literature reviewed concerning the theory of generations (Mannheim, 1952) fell into four categories: research showing significant differences between generations (Hansen & Leuty, 2012; Kupperschmidt, 2000; Lyons et al., 2012; Meriac et al., 2010; Twenge et al., 2010), research finding no difference between generations (Kowske et al., 2010; Sparks, 2012), research indicating more similarity than differences between generations (Gibson et al., 2009; Parry & Urwin, 2011), and research determining the results were mixed regarding generational differences (Cogin, 2012; Twenge, 2010). These findings supported having generational cohorts and generational times cohorts as independent variables for the current study. Pay banding defined the treatment group and the control group and, therefore, was considered as either the mediating or moderating variable. Job satisfaction was a dependent variable for the current study based on the vast amount of research related to job and pay satisfaction as dependent variables related to

equity (Ahmad, 2011; Al-Zu'bi, 2010; Al-Zawahreh & Al-Madi, 2012; Belle & Cantarelli, 2014; Bozeman & Gaughan, 2011; Camgoz & Karapinar, 2011; Carreher, 2011; Cloutier et al., 2013; Day, 2012; Gerhart & Fang, 2014; Haar & Spell, 2009; Hofmans et al., 2013; Ismail et al., 2011; Liu & Tang, 2011; Larkin et al., 2012; Loi, et al., 2009; Murtaza et al., 2011; Nyberg, 2010; Pitts et al., 2011; Ogunnaike et al., 2014; Sardzoska & Tang, 2012; Schay & Fisher, 2013; Till & Karren, 2011; To & Tam, 2013; Tudor, 2011; Wang et al., 2010). This research supported job satisfaction inclusive of pay satisfaction as a dependent variable. Turnover intention was a widely studied variable (Carreher, 2011; Haar & Spell, 2009; Larkin et al., 2012; Nyberg, 2010; Pitts et al., 2011; Shields et al., 2012; Shore & Strauss, 2012; Soltis et al, 2013; Wang et al., 2010). Turnover intention was a dependent variable in the current study. Covariates for this study included minority status and gender based on previous studies using the same covariates (Choi & Rainey, 2013; Stringer et al., 2011).

Current Literature Themes

The literature reviewed concerning generational differences seemed to vacillate from generations or generational times cohorts being significantly different (Hansen & Leuty, 2012; Lyons et al., 2012; Kupperschmidt, 2000; Meriac et al., 2010; Twenge et al., 2010) to being more similar than different (Gibson et al., 2009; Parry & Urwin, 2011). Other research indicated there is no difference between generational groups (Kowske et al., 2010; Sparks, 2012). Twenge (2010) indicated there were small differences; however, there were more similarities than differences. Twenge also found that the differences were often nonsignificant. It appears that generational differences vary not only based on

the lived experiences of the cohort, but also on cultural experiences, including organizational cultural experiences.

Large differences in pay, or pay dispersion, have been linked to unfairness due to the unequal pay (Gupta, Conroy, & Delery, 2011; Trevor et al., 2012). The unequal pay does not equate to pay inequity by definition (Trevor et al., 2012); however, the perception of pay inequity by a subject through comparison of the subject's equity exchange ratio to a referent's equity exchange ratio results in inequity (Van Horn, Schufeli, & Enzmann, 1999). Even the perception of the assignment details can be attributed to the inequity of the equity exchange ratio (Shaffer, Singh, & Chen, 2013). Research contradicted Adams's equity theory concerning pay dispersion; low pay dispersion creates cooperation and harmony among employees (Afshan, Chhetri, & Pradham, 2011).

Pay-for-performance outcomes have become increasingly popular in the public sector in many countries (Perry et al., 2009). It is difficult to measure the public sector outcomes due to the ambiguity of public sector goals (Frey et al., 2013). Park and Berry (2012) asserted that the subjectivity and inequity perceived in the appraisal system is inherently tied to the compensation received. Subjects tend to accept procedural fairness despite a perceived inequity in distribution (Frey et al., 2013). However, research has reported managerial bias in subjective appraisal systems dating back to the 1920s (Bol, 2011). "Pay-for-performance programs increase pay disparity" among employees in the same positions (Till & Karren, 2011, p. 51).

Turnover was often viewed as a result of inequity. If equity was not perceived as being restored by adjusting inputs and outcomes to balance the comparison of the referents' equity exchange ratio then the employee leaves in search of an equitable exchange ratio (Skiba & Rosenberg, 2011). Voluntary turnover of higher performers was less likely to occur when the perception of these higher performers was that their equity exchange ratio correlates with the equity exchange ratio of referents (Nyberg, 2010). Stagnant pay growth or low pay growth of higher performers strengthens their desire to leave the organization; however, lower performing employees view the disparity in the equity exchange ratio comparison favorably (Nyberg, 2010).

Literature Review Related to Research Design

Jamieson (2004) asserted that Likert scale data is ordinal and, therefore, must be strictly treated as rank-ordered data. The data cannot be assumed to have set intervals that are equal. Jamieson acknowledged that using ordinal data as interval data had been controversial for some time. Jamieson stated that some authors disregard the parametric test assumptions and treat Likert data as interval data as they proceed with parametric testing (Jamieson, 2004).

This issue related to the current study which used data from a 5-point Likert scale instrument. Jamieson (2004, p.1217) states that "Generally it is not made clear by authors whether they are aware that some would regard this as illegitimate; no statement is made about the assumption of interval status for Likert data, and no argument made in support." Jamieson states these issues should be discussed as part of determining a study design and methodology, but are often left unaddressed.

The current study's design and methodology was affected by the statistical assumptions and requirements of the statistical tests employed in the current study. However, Jamieson's (2004) assertion that ordinal data must be treated as only ordinal data seems to lack an empirical foundation. Jamieson stated, ". . . and no argument is made in support" (p. 1217); however, Jamieson made no argument supporting her assertions outside the statistical test assumptions and the general description of ordinal data. The article by Jamieson does have implications concerning design and methodology of this study as parametric testing would not be possible if the assertions of Jamieson hold true.

Norman (2010, p. 627) took an opposing position regarding concerns of research reviewers and Jamieson (2004) about using Likert scales with parametric testing by raising the issue of "robustness." The robustness of parametric testing allowed for some deviation from strict statistical assumptions such as the distribution being absolutely normal, or that the data be interval-level. Most statistical tests require an assumption of normality; however, this assumption is of the mean rather than data. Norman stated that the mean would be approximately normal based on the Central Limit Theorem with samples of five to 10 per group. He stated that there are studies regarding the robustness of parametric tests such as ANOVA dating back to 1931 (Pearson, 1931).

Rodwell and Gulyas (2013) studied responses from 193 Australian nurses to explore attitudes toward outcomes related to aspects of psychological contracts and organizational justice. The results of the study found that job satisfaction was significantly correlated for psychological contract fulfillment, the psychological contract

breach, procedural justice, distributive justice, interpersonal justice, and informational justice (Rodwell & Gulyas, 2013). The procedural justice variable, distributive justice variable, interpersonal justice variable, and informational justice variable combine to make-up organizational justice (Rodwell & Gulyas, 2013). Their study used the structural equation model (SEM) to explore the relationship between the variables (Rodwell & Gulyas, 2013). The chi-square test was used to establish goodness of fit (Rodwell & Gulyas, 2013). The final model indicated that psychological contract fulfillment was positively related to job satisfaction, and psychological contract breach was negatively related to job satisfaction (Rodwell & Gulyas, 2013). Interpersonal justice was positively related to job satisfaction (Rodwell & Gulyas, 2013). However, procedural justice and distributive justice were nonsignificant in their relationship with job satisfaction (Rodwell & Gulyas, 2013).

The study by Rodwell and Gulyas (2013) provided a research design and methodology that was not used in the current study. However, the finding of the study (Rodwell & Gulyas, 2013) indicated that the null hypotheses for RQ3 and RQ4 of the current study would be accepted, and the null hypothesis for RQ5 would also be accepted. These assertions are based on the findings that procedural justice and distributive justice are not significantly related to job satisfaction (Rodwell & Gulyas, 2013).

Gillet, Colombat, Michinov, Pronost, & Fouquereau (2013) conducted a cross-sectional correlation study using survey responses from 353 French nurses. Large variances were explained and supported by the hypothesized model in the study (Gillet et

al., 2013). Sobel tests indicated that procedural justice and autonomy attributed 43% of the variance in perceived organizational support and 15% of the variance in job satisfaction (Gillet et al., 2013). Most of the tests were statistically significant, only the relationship between autonomy and job satisfaction was nonsignificant (Gillet et al., 2013).

The study by Gillet et al. (2013) used structural equation modeling and the Sobel test to determine the mediating effect of need satisfaction (MV) between procedural justice (IV) and job satisfaction (DV). The study by Gillet et al. provided potential design solutions for RQ3 of the current study concerning mediation of the relationship between generational perceptions (IV) and job satisfaction (DV) by pay banding (MV). The Sobel test is not in SPSS; however, multiple regression analysis can be used to derive the input values required to calculate the Sobel test.

Bertelli (2007) studied the IRS compared to the Office of the Comptroller of the Currency (OCC). Bertelli used probit regression to determine the effect of pay-for-performance on turnover intention utilizing the 2002 Federal Human Capital Survey results. Bertelli noted in his study that IRS managers faced a "high-powered performance regime" (Bertelli, 2007, p. 239) which was not encountered by the other Department of Treasury agencies. He used the OCC as a control group for his study (Bertelli, 2007).

Bertelli (2007) found the quality of pay was significantly associated with turnover intention. The study by Bertelli concluded that managers of the IRS had less turnover intention than managers of the OCC due to pay banding. The study also defined a gap in the literature, since the frontline managers were not pay banded during the delivery of the

survey instrument used in 2002. Frontline manager pay banding did not occur in the IRS until 2005. However, this study did inform the methodology of the current study relating to RQ5.

Summary of Literature Related to Research Design

Previous research was used to inform the decision on the choice of methodology to ensure this study was grounded in strong design and methodology. However, a few of the methods found were not used in this study. These methods were the correlation presented by Bright (2010), probit regression presented by Bertelli (2007), and stepwise regression used by Ismail et al. (2011). While these methods have utility, there are other parametric methods available to determine group differences and the statistical significance or non-significance between variables.

Bright (2010) used correlation as the method of determining differences between groups, specifically, Pearson product-moment correlation. Pearson product-moment correlation analyzes the degree of linearity between variables providing a coefficient (*r*), which indicates the strength and direction of the relationship (Green & Salkind, 2011). The coefficient (*r*) is presented on a scale of -1 to +1 with 0 indicating no relationship.

Bertelli (2007) conducted a study that closely resembles the current study. He used probit regression to analyze the data from the 2002 Federal Human Capital Survey (Bertelli, 2007). Probit regression is used to determine probability when analyzing binomial variables (Bliss, 1934). Probit regression provides the probability of an event between 0 and 1 representing percentages of 0% to 100% (Bliss, 1934). Probit regression was designed to analyze cross-sectional binomial data (Bliss, 1934).

Ismail et al. (2011) used stepwise regressions in their study. Stepwise regression relies on the computer program to select variables (Field, 2009). Whereas hierarchical regression allows the researcher to determine the order of appearance to better understand how the variables interact (Field, 2009).

Rationale for Research Methodology and Research Design

Literature reviewed revealed several potential methods and designs. The research reviewed used quantitative design and were predominately survey based. There were several methods that were repetitive in research closely related to this study. Choi and Rainey (2013) was the most influential research related to selecting the methodology for the current study. Choi and Rainey used PCA to change multiple ordinal level variables into an interval level single variable. Similar techniques were used by other researchers (Choi, 2009; Day, 2012; Young et al., 2013). Hierarchical multiple regression was another prominent method in the literature reviewed to determine the variance explained by different variables (Ahmad, 2011; Choi, 2009; Choi & Rainey, 2013; Ismail et al., 2011; Scott et al., 2013; Singh & Loncar, 2010; Stringer et al., 2011; To & Tam, 2013). ANOVA has been used in several studies to compare differences in mean of two independent groups for both generational studies and studies involving equity (Adams & Jacobsen, 1964; Al-Zu'bi, 2010; Lyons et al., 2012; Meriac et al., 2010; Murtaza et al., 2011; Schay & Fisher, 2013; Siji & Rajagopal, 2013; Young et al., 2013). Table 5 provides a sample of several studies, and the hypotheses tested matched with the method used to test the hypotheses.

ANOVA was used to answer RQ1 and RQ2 regarding the differences between generational cohorts and generational times cohorts. Hierarchical multiple regression was used as follow-on analysis to explore the variables interaction. Simple regression was used to determine whether pay banding mediates the relationship between generational perceptions and job satisfaction for RQ3. Multiple linear regression was used to determine whether pay banding was a moderating variable between generational perceptions and job satisfaction for RQ4. RQ5 used logistical regression to determine how much variance explained by the independent variables in predicting the intention to leave the organization while taking into account covariates of minority status and gender.

Table 5

Rationale for Research Methodology and Research Design

Researcher(s)	Hypotheses tested	Method
Al-Zu'bi (2010)	H_1: There is no significant relationship between employees' perception of organizational justice and their personal traits such as age, gender, and level of education.	one-way ANOVA
	H_2: There is no significant relationship between organizational justice and job satisfaction.	one-way ANOVA
Choi (2009) 13 hypotheses in all with H_6-H_{13} using moderation analysis	H_1: Racial/ethnic, sex, and age diversity will be positively related to turnover intention of employees.	hierarchical multiple regression
	H_2: Racial/ethnic, sex, and age diversity will be negatively related to increased job satisfaction of employees.	hierarchical multiple regression
	H_3: Job satisfaction will mediate the effects of racial/ethnic, sex, age, diversity, and contextual factors on turnover intention of employees.	mediation analysis
	H_4: Effective diversity management will be positively related to increased job satisfaction.	hierarchical multiple regression
	H_5: Effective diversity management will be negatively related to turnover intention of employees.	hierarchical multiple regression
	*H*6: Diversity management will moderate the impact of racial, ethnic, sex, and age diversity on job satisfaction of employees.	moderation analysis
Ismail et al. (2011)	H_1: There is a positive relationship between participation in pay systems and job satisfaction.	stepwise regression analysis
	H_2: There is a positive relationship between adequacy of pay and job satisfaction.	stepwise regression analysis
	H_3: Interactional justice positively mediates the effect of participation in pay systems on job	mediation analysis

Researcher(s)	Hypotheses tested	Method
	satisfaction.	(*table continues*)
	H_4: Interactional justice positively mediates the effect of adequacy of pay on job satisfaction.	mediation analysis
Lyons et al. (2012) H_1 through H_4b all used the same method	H_1: Members of each generational cohort will have greater job mobility (i.e. more job moves) in each of their career stages than the generation that preceded them did during the same career stages.	ANOVA with ad hoc *t*-tests with Bonferonni adjustments
	H_1: Younger generations of Chinese female migrant workers will have higher levels of cognitive work values than those of older generations.	MANCOVA
	H_2: Younger generations of Chinese female migrant workers will have lower levels of perceived extrinsic, intrinsic, and social job rewards than those of older generations.	MANCOVA
	H_3: Younger generations of Chinese female migrant workers will have a lower level of job satisfaction than those of older generations.	MANCOVA
	H_4: Cognitive work values will be more substantial than instrumental and affective work values in positively associating with the job satisfaction of younger generations.	hierarchical multiple regression
	H_5: Intrinsic job rewards will be more substantial than extrinsic and social job rewards in positively associating with the job satisfaction of younger generations.	hierarchical multiple regression

Note. This is a sampling of the hypotheses and methodology used by researchers in previous studies which attributed to the research methodology and research design of this study.

Statistical analysis tools should be selected based on prescribed criteria of the test and intended use of the test. Hierarchical multiple regression was used instead of stepwise regression as hierarchical regression allows the researcher to select the variables based on theory rather than a computer algorithm. If stepwise regression had been used instead of hierarchical multiple regression, then the interaction between the gender variable and the pay banding variable in mediation analysis would not have been discovered. The stepwise regression would have only shown pay banding was statistically significant and not that gender was statistically significant until pay banding was added. Hierarchical multiple regression also allows for detection of a change in variance as each variable is added. When dealing with theory-based research problems, "the data analyst knows more than the computer" (Henderson and Velleman, 1981, p. 391).

Conclusion

The exhaustive search of peer-reviewed literature related to the current study produced several significant findings. The findings of the literature review provided a window into what is known from previous studies and what is not known from the lack of previous studies in the discipline. Previous studies regarding generational theory found that there are many similarities between generations (Meriac et al., 2010) and that differences are often small (Twenge, 2010). Kowske et al. (2010) reported no significant statistical differences in generational attitudes toward pay satisfaction. Sparks (2012) found no differences between the generations confirming the earlier findings of Kowske et al. However, Hansen and Leuty (2012) found statistically significant ($p < .01$) differences between the generations. Significant differences were also found by other

researchers (Bright, 2010; Cogin, 2012; Parry & Urwin, 2011). Generational perceptions are the lens of the current study to account for the potential differences or similarities based on previous studies. The results of the current study support that generational cohorts and generational times cohorts have similarities and differences simultaneously.

Equity theory was predicated upon pay inequity perceptions (Adams, 1963, 1965; Adams & Jacobsen, 1964; Adams & Rosenbaum, 1962). Bertelli (2007) found that pay banded managers, senior managers and executives, within the IRS had less turnover intention than managers within the OCC. However, frontline managers are not defined as "managers" on the survey instrument, and frontline managers had not been pay banded at the time the 2002 survey was administered. Other researchers have studied the federal workforce concerning job satisfaction and turnover intention concluding job satisfaction is a predictor of turnover intention (Choi, 2009; Choi & Rainey, 2013). However, there were no studies found researching the effect of pay-for-performance on frontline managers of the IRS. Equity theory has been the focus of studies with United Kingdom factory workers (Ahmad, 2011), professors (Bozeman & Gaughan, 2011), Nigerian sales representatives (Ogunnaike et al., 2014), female Chinese migrant workers (To & Tam, 2013) among other populations. Based on prior studies using equity theory, it is evident that equity theory best explains the actions of *Person*s compensated under pay-for-performance systems. Equity theory has been shown to predict accurately actions of *Person*s based on their perceptions of their equity exchange ratio compared to the equity exchange ratio of *Other*s. The results of Schay and Fisher's (2013) study supported the propositions of equity theory. Schay and Fisher studied pay-for-performance among

federal public sector workers and determined that the five-year point after implementation was the point at which pay-for-performance garnered the largest amount of support. Therefore, the 2010 Federal Employee Viewpoint Survey was selected as the instrument for the current study as the instrument was administered approximately five years after IRS frontline managers were pay banded.

The prior research concerning equity theory provided empirical evidence that the perception of inequity as viewed by the *Person* perceiving the inequity as injustice regardless of the actual circumstances is inequity (Adams, 1963, 1965; Adams & Jacobsen, 1964; Adams & Rosenbaum, 1962). Camgoz and Karapinar (2011; Larkin et al., 2012) found perceptions of inequity were linked to job satisfaction. Pay-for-performance was another strong predictor of job satisfaction (Ismail et al., 2011; Larkin et al., 2012). Job satisfaction was a predictor of turnover intention; the stronger the perception of job satisfaction, then turnover intention was reduced (Nyberg, 2010; Pitts et al., 2011). Pay-for-performance negative results were more pronounced in the public sector (Frey et al., 2013).

Prior research has not provided empirical evidence that every population perceives pay-for-performance in the same manner. No study was found that addressed the populations of federal frontline managers' response to moving from the general schedule to a pay-for-performance system. The current study explored the policy assertions of the IRS that moving to a pay-for-performance system would improve retention and motivate future leaders (TIGTA, 2007). The current study explored pay-for-performance perceptions of frontline managers of the IRS compared to frontline

managers who have not experienced pay-for-performance in the Department of the Treasury to provide empirical evidence regarding pay-for-performance within the Department of the Treasury.

Gap in Literature

The current study filled the gap in literature concerning the effects of pay-for-performance on the frontline managers within the IRS. This will extend the knowledge concerning pay-for-performance and the federal workforce. Past studies on pay-for-performance have generally focused on a broader definition of the public sector. Bertelli (2007) conducted a study comparing the OCC to the IRS; however, his sample was comprised of senior managers and executive who had not experienced the effect of pay-for-performance, since pay banding had no effect on the GS-15 and senior executive service when first implemented. There have been studies conducted with the federal workforce as a sample regarding the effect of job satisfaction on turnover intention; however, existing studies cover employees under both compensation systems (Pitts et al., 2011). Several studies have explored the effects of job satisfaction on turnover intention among the federal workforce (Choi, 2009; Choi & Rainey, 2013; Pitts et al., 2011). Sa (2013) explored fairness regarding rewards and appraisals. The gap is that there were no studies found that addresses pay-for-performance in a population that has experienced pay-for-performance for the first time in the federal workforce.

The current study focused specifically on the frontline managers of the IRS. The frontline managers of the IRS are the only managers in the Department of the Treasury who are pay banded under a pay-for-performance policy. The current study used

quantitative statistical analysis to determine whether there are significant differences in perceptions of job satisfaction and intention to leave the agency between IRS frontline managers who are pay banded and the frontline managers who are not pay banded within the Department of the Treasury. This research furthered the understanding of the effects of pay-for-performance among the federal public sector workers and provides empirical data for policymakers to consider in the future concerning pay-for-performance. TIGTA (2010) called for additional evaluation of the pay-for-performance initiative established by the Internal Revenue Service Restructuring and Reform Act of 1998. "The IRS has stated that it must recruit one manager a day for the next 10 years" (TIGTA, 2010, p. 4). This statement solidifies the importance of understanding the perceptions of job satisfaction and employee turnover intention among frontline managers of the IRS.

Researchers have studied generational differences among various populations with mixed results (Kowske et al., 2010; Twenge, 2010). Researchers have also studied the propositions of equity theory with different occupations, cultures, and nationalities. However, there were no studies found through this literature review that examined the effect of pay-for-performance, specifically pay banding, on perceptions of job satisfaction and employee turnover intentions through the lens of generational membership federal frontline managers. Bertelli (2007) studied the effects of pay-for-performance on IRS managers using the 2002 Federal Human Capital Survey; however, frontline managers were not under the pay banding compensation system until September of 2005. The study focused on "managers," which translates to senior managers based on the definitions used by the survey (see Figure 1).

Chapter 1 provided the introduction to this study through the research problem, the purpose statement, and significance of this study. This chapter, Chapter 2, provides the theoretical background of the theory of generations and equity theory. These theories were used to understand better from existing literature the impact of generational differences and similarities along with gaining an understanding of the effects of perceived inequity. The literature reviewed for this chapter offered a greater understanding of job satisfaction and how the appraisal of that satisfaction or dissatisfaction affects employee turnover intention. Chapter 3 provides a justification for the quantitative research design and methodology based on the literature reviewed. The methodologies discussed in Chapter 3 were used to fill the gap from the literature concerning the effects of pay banding on perceptions of job satisfaction and turnover intention of frontline managers within the Department of the Treasury through a generational lens. Chapter 3 provides information on the population and sample size, data collection methods employed by OPM, a map of the intended data cleaning, and the description of the statistical testing including validity, reliability, and ethical considerations. Chapter 4 presents the results and Chapter 5 provides an interpretation of the results with the implications for social change.

Chapter 3: Research Method

Introduction

The purpose of this research study was to examine the effect of pay banding on the relationship between generational perceptions and job satisfaction. This chapter provides an outline of the research design and methodology of this quantitative study. This chapter includes the role of the researcher, methodology, sampling, description of archival data, instrumentation, operational description of variables, data analysis plan, threats to validity, and ethical considerations. This chapter concludes with a summary of the research design and methodology described in the chapter and a transition to Chapter 4.

There are a plethora of statistical tests available to researchers. However, the research design and methodology should be selected to answer the research questions of any study. Therefore, the research design for this study was derived from the research questions posed by this study. RQ1 and RQ2 used ANOVA to determine whether there were generational differences regarding job satisfaction at two different levels of measuring the population concerning generations. RQ1 and RQ2 then employed hierarchical multiple regression as a follow-on analysis to determine how the variables of this study interacted. RQ3 used mediation analysis to determine whether pay banding mediated the relationship of generational perceptions and job satisfaction. RQ4 used moderation analysis to determine whether pay banding moderated the relationship of generational perceptions and job satisfaction. RQ5 used logistic regression to determine the amount of variance explained by pay banding and other variables in predicting a

frontline manager's intention to leave the IRS. The research questions and ultimately the statistical tests employed in the analysis were the best methods of addressing the problem statement. A detailed explanation of how the research design was derived from the problem statement is provided below under the heading *Research Design*.

It is important to consider the role of the researcher in any study to avoid pitfalls such as researcher bias or the researcher using positional authority over participants. This study used archival data collected by OPM using the 2010 Federal Employee Viewpoint Survey as the instrument. The participants' identity in the data collection process was anonymous. My role as the researcher in this study was to analyze the secondary data provided by OPM. I did not participate in the development of the instrument. I did not participate in the collection of data for the instrument. I was a participant in the 2010 Federal Employee Viewpoint Survey; however, a single participant among such a large sample exerts no significant bias.

The population used for this study was the frontline managers of the Department of the Treasury. The IRS frontline managers were the focus of the study since they had experienced pay banding (TIGTA, 2007) and were the treatment group. The remainder of the Department of the Treasury frontline managers had not been exposed to pay banding and constituted the control group. The 2010 Federal Employee Viewpoint Survey used both census sampling and probability sampling techniques (OPM, 2010a). A detailed explanation of sampling procedures is provided below under the heading *Sampling*. The sampling section provides the sampling strategy, a description of how the sample was

drawn, the sampling frame, and a description of how the sample size was determined using G*Power3 (Faul et al., 2009).

This study used secondary data from the 2010 Federal Employee Viewpoint Survey. OPM (2010a) administered the survey as a census survey to the federal agencies listed in Appendix B during February and March 2010. The population targeted by the "2010 Federal Employee Viewpoint Survey was full-time, permanent employees" (OPM, 2010a, p. 23). Recruitment was primarily conducted via an email notification that the survey was available. The survey was delivered as a self-administered web-based survey; however, paper versions were available upon request (OPM, 2010a, p. 24). This instrument provides federal employees' perceptions regarding their specific agency. OPM invited 504,609 participants to take the survey, distributed across 82 agencies (OPM, 2010a, p. 24). The response rate was 52% of the participants receiving a survey, resulting in 263,475 participants submitting completed surveys (OPM, 2010a, p. 24). Participation was voluntary and anonymous. The data from the survey are in the public domain.

The Federal Employee Viewpoint Survey has been administered five times from 2002 through 2010 and was formerly called the Federal Human Capital Survey from 2002 through 2008 (OPM, 2010a). The survey was conducted yearly beginning in 2011 (OPM, 2010a). The 2010 Federal Employee Viewpoint Survey provides an instrument to collect the perceptions of federal employees concerning job satisfaction (OPM, 2010a). The Federal Employee Viewpoint Survey, as the instrument for this study, is discussed below under the heading *Instrumentation*.

Threats to validity and reliability are inherent in any study. *Validity* is concerned with whether an instrument actually measures what it was designed to measure (Creswell, 2014; Field, 2013). Creswell (2009) identified several "threats to internal validity: history, maturation, statistical regression toward mean, mortality, diffusion of treatment, compensatory demoralization, compensatory rivalry, test-retest, and instrumentation" (Table 8.5). Likewise, external validity poses "threats to validity such as interaction of selection and treatment groups, interaction of the setting and the treatment, interaction of the history and the treatment" (Creswell, 2009, Table 8.6). Threats to *construct validity* involve the researcher using definitions and measurements of variables that do not adequately describe the variable and its measurement (Creswell, 2014). The threats to validity specific to this study are addressed in the section labeled *Threats to Validity*.

This research study had few ethical concerns. This study used an existing data set from the 2010 Federal Employee Viewpoint Survey. The data were collected by OPM. There were no protected or vulnerable groups of participants used in the study. The identity of the participants was protected, and the raw data do not have any identifiable information based on the large sample size. The data and analysis from this study will be stored securely for 7 years after the conclusion of the study. No community partners were used in this study. I completed the research ethics training, Protecting Human Research Participants, provided by National Institutes of Health. No data were viewed or analyzed prior to IRB approval. Ethical concerns are addressed later under the heading *Ethical Procedures*.

Research Design

The dependent variable (DV) was job satisfaction. The independent variable (IV) was generational cohort membership and generational times cohort membership. The mediating variable or moderating variable (MV) was pay-for-performance, specifically pay banding. Pay banding was used as both the mediating variable in RQ3 and the moderating variable in RQ4 to determine whether the pay banding variable actually mediated the relationship between the IV and the DV or moderated the relationship between the IV and DV. I heeded the warning by Baron and Kenny (1986) to be "aware of the importance of not using the terms moderator and mediator interchangeably" (p. 1173). Previous research was not clear on whether pay banding would be a mediating variable or a moderating variable, the mediation analysis, and moderation analysis were conducted as distinct and separate analyses of the pay banding variable. The objective of this study was to determine whether pay-for-performance, specifically pay banding, effects generational perceptions of job satisfaction. The research questions and hypotheses for this study were as follows:

RQ1: Does the generational theory explain the differences in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$1: There is no statistically significant difference in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) among frontline

managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$1: There is a statistically significant difference in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

RQ2: Does generational theory explain differences in generational perceptions regarding job satisfaction (DV) between generational times cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$2: There is no statistically significant difference in generational perceptions regarding job satisfaction (DV) between generational times cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$2: There is a statistically significant difference in generational perceptions regarding job satisfaction (DV) between generational times cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

RQ3: To what extent does pay banding (MV) mediate the relationship between generational perceptions regarding job satisfaction (DV) between generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$3: Pay-for-performance, specifically pay banding (MV), does not mediate the relationship between generational perceptions regarding job satisfaction (DV) and generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$3: Pay-for-performance, specifically pay banding (MV), significantly mediates the relationship between generational perceptions regarding job satisfaction (DV) and generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

RQ4: To what extent does pay banding (MV) moderate the relationship between generational perceptions regarding job satisfaction (DV) between generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$4: Pay-for-performance, specifically pay banding, does not moderate the relationship between generational perceptions regarding job satisfaction (DV) and generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$4: Pay-for-performance, specifically pay banding, significantly moderates the relationship between generational perceptions regarding job satisfaction (DV) and generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

RQ5: Does generational perceptions (IV), minority status (IV), gender (IV), pay banding (IV), job satisfaction (IV), performance equity (IV), and work-life balance (IV)

predict the intent to leave the agency (DV) among frontline manager of the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$5: No relationship exist between generational perceptions, minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance in the prediction of intent to leave the agency among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$5: A negative relationship exist between generational perceptions, minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance in the prediction of intent to leave the agency increasing the intent to leave the agency among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$5A: Generational perceptions has a significant negative effect on frontline managers' intent to leave the agency when minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5B: Minority status has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, gender, pay banding, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5C: Gender has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, pay banding, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5D: Pay banding has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5E: Job satisfaction has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, pay banding, performance equity, and work-life balance are included in the analysis.

$H_1$5F: Performance equity has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, pay banding, job satisfaction, and work-life balance are included in the analysis.

$H_1$5G: Work-life balance has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, pay banding, job satisfaction, and performance equity are included in the analysis.

Variables

There were seven variables for this study. The two constant covariates were gender and minority status which were both categorical. Gender was either male or female. Minority status was either minority or non-minority. Generational cohort was an independent variable in RQ1 and was categorical. Generational cohort was either Baby Boomer generation or Generations X. Generational times cohort was the independent variable in RQ2 and was categorical. Generational times cohort was either Early Baby Boomer or Late Baby Boomer or Early Generation X or Late Generation X late. Pay banding was a mediating variable in RQ3 and a moderating variable in RQ4. Pay banding was either pay banded or GS. Job satisfaction was a dependent variable in RQ1 through

RQ4; however, in RQ5 job satisfaction was an independent variable. Job satisfaction was a continuous variable. Turnover intention was a dependent variable in RQ5. Turnover intention was either intends to leave or does not intend to leave. These variables are further defined and explained later in this chapter under the heading operational definition of variables.

Research Design

The overarching purpose of this research was to find answers to the research questions. Each element of the research design aligned with the research question(s). The research design for this study was a quantitative survey design using data from the 2010 Federal Employee Viewpoint Survey as the data set. The quantitative research questions explored the relationships between the variables to determine the differences between the groups studied. The research questions and research design are in alignment. Latham (2008) identified several elements of good research. One of the elements was timeliness which deals with presenting relevant and real-world research questions at the time the research can impact the situation (Latham, 2008). The purpose of this research study was to examine the effect of pay banding on the relationship between generational perceptions and job satisfaction. The quantitative research design of this study definitely connected and aligned with the research questions presented in this study.

Research Design Choice

"Secondary data analysis in the social sciences has a rich tradition" (Frankfort-Nachmias & Nachmias, 2008, p. 276) dating back to the early 1900s. This study used a secondary data set from the 2010 Federal Employee Viewpoint Survey as the study's

only data source. There are advantages and disadvantages to using secondary data. Secondary data provides a possibility of replication of studies, if the data is reliable and accurate (Frankfort-Nachmias & Nachmias, 2008). Another advantage is the ability to conduct longitudinal research (Frankfort-Nachmias & Nachmias, 2008) combined with time savings (Rudestam & Newton, 2007). "Primary research is a costly undertaking" (Frankfort-Nachmias & Nachmias, 2008, p. 278). Use of secondary data provides a national survey with a sample size of 1,500 to 2,000, which can be very expensive with the cost potentially exceeding $300,000 in most cases (Frankfort-Nachmias & Nachmias, 2008). The monetary and time savings are advantages that cannot be overlooked. An advantage of using the 2010 Federal Employee Viewpoint Survey was that it reached the desired population of frontline managers within the Department of the Treasury and specified their respective agency. The data were extensive and reliable. The data provided the desired variables of this study.

Disadvantages of secondary data sets include gaining access to the data, restricted use of the data, and condition of the data collected (Rudestam & Newton, 2007). The data set for the 2010 Federal Employee Viewpoint Survey did not pose these problems. There were no restrictions to use the data set, and the data set is in the public domain. The data set was downloaded as a .CSV file which is compatible with SPSS. The data cleaning required was basic. For example, string data were converted to numerical data before analysis.

Advancing knowledge in the discipline of Public Policy and Administration requires a research design that will yield data, evidence, and rational considerations to

shape the knowledge (Creswell, 2014). This study was concerned with the effect of pay banding on job satisfaction as perceived by today's generational groups. Quantitative studies advance knowledge through questioning the relationships of variables (Creswell, 2014). The quantitative approach to research design is focused on experiments, surveys, or other means of collecting statistical data. This study used a survey design. This quantitative study was designed to answer the posed research questions and determine the acceptance or rejection of the null hypothesis for each research question. The answers to the research questions provided insight into the generational differences and similarities of the workforce as the Baby Boomer generation prepares to retire. This study mainly explored the effect of pay banding on job satisfaction. The quantitative design of this study provided an appropriate design to further the knowledge in the discipline and may be beneficial to policymakers in the federal sector.

Research Design Options

The research design process began with identification of a researchable problem (Creswell, 2014; Latham, 2014). The next step in the process was determining the gap in the literature (Latham, 2014). These steps were followed by developing the research questions, selecting an appropriate conceptual or theoretical framework, and the literature review (Creswell, 2014; Latham, 2014). The stage was set to determine the design approach for the study. "Quantitative research questions ask about measurable variables and relationships" (Latham, 2014, p. 38) and qualitative research questions describe the nature of a phenomenon and how the phenomenon works (Latham, 2014). The research questions posed by this study were best answered using the 2010 Federal Employee

Viewpoint Survey. As this study used survey data, the study falls into the category of survey research (Creswell, 2014). Survey research is one of the prominent strategies of inquiry for quantitative studies. The approach for this study was a quantitative approach.

Quantitative options regarding survey research offer a wide-range of options. However, the statistical assumptions and requirements of the specific statistical tests reduce the available options. Quantitative research designs involve three categories: correlations, prediction, and group differences. Statistical testing for correlation is used to determine whether there is a correlation between variables and the strength of the correlation. Correlation testing includes the chi-square for association, Pearson's correlation, loglinear analysis, and Spearman's correlation (Field, 2013). Statistical testing for prediction was used to predict how much one variable explains another variable. Prediction testing includes linear regression, multiple regression, hierarchical regression, logistic regression, and ordinal regression (Field, 2013). Statistical testing for group differences are used to determine whether there are statistical differences between groups. Statistical testing for group differences include parametric tests such as one-way ANOVA, repeated measures ANOVA, within-within-subjects ANOVA, two-way ANOVA, factorial (three-way) ANOVA, mixed ANOVA, one-way MANOVA, ANCOVA, independent-samples *t* test, and paired-samples *t* test (Field, 2013). There are also non-parametric tests for determining group differences such as Mann-Whitney U test, Kraskal-Wallis H test, Wilcoxon signed rank test, Freidman test, McNemar's test and paired-samples sign test (Field, 2013).

The selection of the statistical tests used for this study relied on the statistical assumptions of each test and the variable requirements of each test. Figure 2 below provides variable requirements for statistical tests selected. Statistical assumptions are discussed in the data analysis section. Based on Figure 2, Table 6 provides variable characteristics for each research question and the potential tests that are available.

The research questions presented in this study were best answered by data from the 2010 Federal Employee Viewpoint Survey. Survey research is a quantitative approach best suited for providing numerical descriptions of trends, attitudes, and opinions of a studies population (Creswell, 2014). The data from the 2010 Federal Employee Viewpoint Survey provided data for this cross-sectional study. This study did not include an intervention. The survey data collected only the opinions and attitudes of the participants in the form of 78 5-point Likert scale questions and 11 demographic questions. Qualitative methods could have been employed to "get at the nature of some phenomenon and not only describe it, but also explain how it works" (Latham, 2014, p. 38) of a limited number of participants. However, this study sought to determine the relationship between the variables of the study and group differences between the treatment group and the control group. These elements justify the quantitative approach to the survey data. Parametric testing was used as the requirements and assumptions of the statistical tests were met. Non-parametric tests were not used.

Use of the Statistical Test Selection Tree, Figure 2, began with the outcome variable followed by the predictor variable. Since the outcome variable was a single continuous variable for RQ1 and RQ2 and the predictor variable for both questions was

categorical with more than two groups of different participants in each category, the decision tree lead to one-way ANOVA. The assumptions of the one-way ANOVA were met. RQ3 used mediation analysis to determine whether the pay banding variable was a mediating variable. RQ4 used moderation analysis to determine whether the pay banding variable was a moderating variable. Therefore, the Statistical Test Selection Tree was not used for RQ3 and RQ4. RQ5 had a categorical outcome variable and two or more categorical and continuous predictor variables with different predictors in each category leaving logistic regression as the only selection. The assumptions of logistic regression were met.

The overall methodological approach was in alignment with the theoretical framework, variables, and research questions (Latham, 2014). Other studies used similar variables, research questions, and theoretical framework also used survey research and quantitative methods to determine group differences and relationships between the variables (Bozeman & Gaughan, 2011; Gerhart & Fang, 2014; Hofmans et al., 2013; Sardzoska & Tang, 2012; Pitts et al., 2011). The alignment of this study supported the use of quantitative analysis to determine group differences in the studied population and to determine the relationships of the variables.

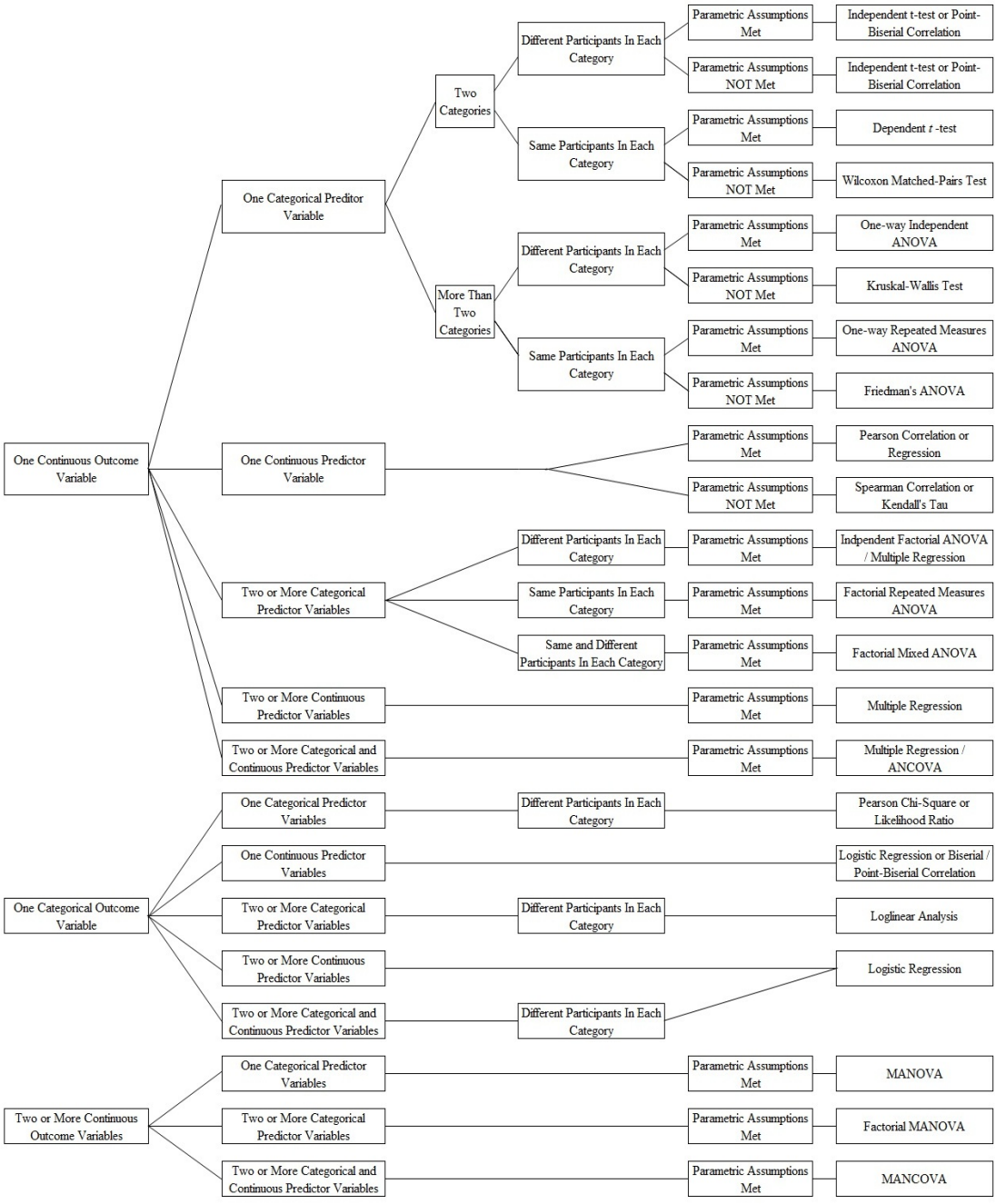


Figure 2. Statistical test selection tree. This statistical test selection tree was used to determine the appropriate statistical test for each research question based on the variables of the research question and the requirements of the statistical tests. Adapted from *Discovering Statistics Using SPSS* (3rd ed.), by A. Field, 2013, London, UK: Sage. Adapted with permission (Appendix C).

Table 6

Statistical Testing Options

Research question	Variable characteristics	Tests conducted
RQ1	DV is one continuous variable IV is three categorical generational cohort groups	ANOVA/Hierarchical Multiple regression
RQ2	DV is one continuous variable IV is five categorical generational times cohort groups	ANOVA/Hierarchical Multiple regression
RQ3	DV is one continuous variable IV is three categorical generational cohort groups MV is a dichotomous variable	Baron and Kenny mediation analysis consisting of three simple regressions with IV predicting DV, IV predicting MV, and MV predicting DV and one multiple regression with IV and MV predicting DV (Hayes, 2013).
RQ4	DV is one continuous variable IV is three categorical generational cohort groups MV is a dichotomous variable	Baron and Kenny moderation analysis consisting of a multiple linear regression with IV and MV input as independent variables and the interaction of IV and MV, if the interaction is significant then moderation is present (Hayes, 2013).
RQ5	IVs are either continuous or categorical DV is categorical	Logistic regression

Note. Discovering Statistics Using SPSS (Field, 2013) was used to determine the statistical test requirements and assumptions for RQ1, RQ2, and RQ5. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach* (Hayes, 2013) was used to determine the statistical test requirements and assumptions for RQ3 and RQ4.

A researcher's role may influence or bias a study (Creswell, 2014). My role as a researcher was limited since secondary data were used. I did not personally observe the survey delivery or data collection. I did participate in the 2010 Federal Employee Viewpoint Survey with approximately 6,900 other IRS frontline managers. My role as a researcher concerning data collection was also limited since secondary data were used. My role primarily included data cleaning and data analysis. The data were collected by OPM.

The research problem is often derived from the researcher's experiences in their personal life or workplace experiences (Creswell, 2014). The research problem was derived from my workplace experience as a pay banded manager and interest in the policy surrounding the pay-for-performance efforts in the IRS. I was a frontline manager during the timeframe that the 2010 Federal Employee Viewpoint Survey was administered. I was also a participant of the 2010 Federal Employee Viewpoint Survey. However, there was a significant number of other frontline managers from the IRS, who participated in the survey. I was not involved with the administration of the 2010 Federal Employee Viewpoint Survey and exerted no positional or other authority over any participants of the survey concerning participation in the survey. I supervised 15 frontline employees who may have taken the survey. Due to the anonymous nature of the data collection, I cannot be certain who participated. This study focused on frontline managers and did not include frontline employees; therefore, I had no positional relationship with the other participants.

Researchers exercise discretion in various ways, such as participant inclusion and exclusion, cleaning data, or choice of statistical analysis (Lo, 2010). There are no power relationships to manage; as the researcher my role was limited only to cleaning and analyzing ex-post facto data. Researcher potential bias would include a predisposed belief that pay banding effects job satisfaction in a negative manner based on personal experience and existing literature discussed in Chapter 2. However, this potential bias will be controlled by only analyzing the data statistically and providing interpretation of the analysis consistent with statistical testing and analysis procedures.

There are no other ethical considerations beyond the study being conducted within my workplace and the potential for researcher bias mentioned earlier. There were no conflicts of interest or power differentials. No incentives were used since the data is secondary ex-post facto data. OPM administered the survey in a manner to ensure vulnerable and protected populations were not targeted. Participation in the survey was both voluntary and anonymous. Identification of participants was not possible based on the information collected and the large sample size. I obtained Walden University IRB approval to conduct this study prior to viewing or analyzing the secondary data from the 2010 Federal Employee Viewpoint Survey.

Methodology

The target population for this study was frontline managers within the Department of the Treasury. The data set contained employee and management levels representing 263,475 respondents (OPM, 2010a). Based on the data code book located in Appendix D, the agencies have a four digit alpha-numeric code. The first two digits designate the

department and the last two digits designate the agency within the department. The Department of the Treasury agency designations are displayed in Table 7. Data cleaning to reduce the data set to the targeted population took place in two data cleaning items. The first data cleaning item was to remove all agencies except the Department of the Treasury. This was accomplished by deleting all agencies other than the Department of the Treasury agencies shown in Table 7. The second data cleaning item was to remove all participants except frontline managers. This was accomplished using survey question 79, DSUPER, What is your supervisory status? The choices were [A] Non-Supervisor/ Team Leader, [B] Supervisor, and [C] Manager/Executive. Base on survey definitions located in Appendix A, supervisor is defined as "Frontline supervisors who do not supervise other supervisors; typically those who are responsible for employees' performance appraisals and approval of their leave" (OPM, 2010a). All participants not responding to question 79 with answer choice B were deleted.

The Department of the Treasury had approximately 116,000 employees with 107,622 employed by the Internal Revenue Service in 2010 (TIGTA, 2013). Frontline managers for the IRS numbered approximately 6,900 in 2010 (TIGTA, 2011). The frontline managers for the remainder of the Department of the Treasury were approximately 1,196 in 2010 (Treasury Budget, 2010). Although utilizing secondary data limits the available sample to a pre-determined selection of participants, the sample size was sufficient for this study. It was vital to the study to identify if the available sample was adequate. However, this was not possible until after IRB approval.

Table 7

Federal Employee Viewpoint Survey Agency Designations

Department/agency designation	Agency name
TR35	Office of Thrift Supervision
TR40	Alcohol and Tobacco Tax and Trade
TR91	Departmental Offices
TR93	Internal Revenue Service
TR95	Office of Inspector General
TRAA	Financial Management Service
TRAB	Bureau of Public Debt
TRAD	U.S. Mint
TRAF	Financial Crimes Enforcement Network
TRAI	Bureau of Engraving and Printing
TRAJ	Office of Comptroller of Currency
TRTG	The Inspector General for Tax Administration

Note. From 2010 Federal Employee Viewpoint Survey Codebook. Permission to use the survey is in Appendix F.

Sample

Sample size must be large enough to support the required statistical power (Prajapati, Dunne, & Armstrong, 2010). Statistical power analysis refers to the number of participants needed to identify the effects that result from the independent variable (Rudestam & Newton, 2007). A power level of 80% is generally acceptable (Cohen, 1992; Rudestam & Newton, 2007). One barrier was the number of actual participants fitting the study requirements included in the secondary data. However, the large sample size of the governmental survey yielded a sufficient sample.

Cohen (1992) indicated that sampling strategy should be based on having enough participants to satisfy the desired power level for the specified confidence level and the hypothesized effect size. The sample was large enough to support a practically significant effect size, the intended confidence level of 95%, type I error rate (α) of 5%, and 80% power level. It was vital to this study for the secondary data to provide a sample large enough to meet the power analysis parameters described above.

> Small sample sizes are appropriate if the true effects being estimated are genuinely large enough to be reliably observed in such samples. However, as small studies are particularly susceptible to inflated effect size estimates and publication bias, it is difficult to be confident in the evidence for a large effect if small studies are the sole source of that evidence. (Button et al., 2013, p. 369)

The sample for the 2010 Federal Employee Viewpoint Survey was comprised of permanent, full-time employees who were at least 18 years of age, which matches prior sampling methods of the survey (OPM, 2010a). “The sample type was a probability

sample; that is, each employee in the target population has a known, non-zero probability of selection" (OPM, 2010, p. 23). The agencies not using a probability sample elected to utilize a census sample (OPM, 2010a). Since probability sampling is a form of random sampling, the results may be generalized from the participants of the survey to the larger population of the survey.

Sampling Frame

The sample for this study was drawn from frontline managers within the Department of the Treasury. Executives and senior managers were excluded as pay banding had little effect on the existing executives and senior managers when implemented. Bertelli (2007) compared the IRS to the OCC using a sample of managers, supervisors that manage other supervisors, which translates to executives and senior managers. This study explored the effect of pay-for-performance on a population that felt the effect of the policy change. Frontline managers of the IRS were not pay banded until late 2005 (TIGTA, 2007). Prior to 2005, frontline managers of the IRS were compensated as GS workers. Bargaining unit employees were excluded since they are not compensated under pay-for-performance, but rather as GS workers and have not experienced pay banding. Frontline managers of the IRS were included since they are compensated under a pay-for-performance system known as pay banding. Frontline managers for the remainder of the Department of the Treasury are compensated as GS workers; however, their inclusion offers a comparative control group.

Power Analysis

G*Power3 (Faul et al., 2009; Faul et al., 2007) was the software that was used to conduct the power analysis. This study used several statistical tests and required several power analyses to determine the sample sizes needed to support the research. This study used a one-way ANOVA and hierarchical multiple regression for RQ1 and RQ2; mediation analysis for RQ3; moderation analysis for RQ4; and logistic regression for RQ5. The type of power analysis selected was *a priori*. Input parameters were two-tailed test, α error probability of .05, power (1-β error probability) of .80. Since the sample size of the secondary data were not known until after IRB approval, all three effect sizes were used. Table 8, below, provides the power analysis results from G*Power3 (Faul et al., 2009; Faul et al., 2007) for RQ1 through RQ4. RQ5 used logistic regression and required a sample size of 208 participants. Appendix E provides detail concerning the power analysis input and output parameters.

The calculations of G*Power3 (Faul et al., 2009; Faul et al., 2007) regarding RQ1 compared to calculations by Cohen (1992) required one additional participant per effect size. For RQ2 the small and large effect size calculations match; however, the medium effect size calculation required one less participant according to Cohen. Cohen's calculations for RQ3 and RQ4 linear multiple regression required three less participants for small effect size, one less participant for medium effect size, and two less participants for large effect size when compared to G*Power3 (Faul et al., 2009; Faul et al., 2007) calculations. The *a priori* power analysis was used to determine the sample sizes needed to support a power level of .80 for α of .05 to ensure the sample sizes were determined

prior to collecting data. Power analysis was run for each effect size to provide clear parameters for the analysis. This proved beneficial after data collection and cleaning to determine whether each group within the sample met power analysis requirements. This was the basis for excluding Generation Y, which contained only 13 participants.

Table 8

*Power Analysis Results Using G*Power3*

RQ/Test(s)	Number of groups	Number of independent variables	*N* for small effect size per group	*N* for medium effect size per group	*N* for large effect size per group
RQ1 / ANOVA	3	1	323	53	22
RQ2 / ANOVA	5	1	240	40	16
RQ3 & RQ4 / Linear multiple regression	1	4	602	85	40
RQ3 & RQ4 / Hierarchical multiple regression	1	4	480	68	31

Note. Sample size (*N*) for small, medium, and large effect size with a power level of 80% for α of .05.

The survey was self-administered on a voluntary basis. The 2010 Federal Employee Survey did not include an informed consent form. Federal guidelines regarding informed consent state that if "the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context" (Protection of Human Subjects, 2009) then informed consent can be waived. The survey asked for the employees' perceptions of the

organizational success of their agency (OPM, 2010a). The risk to the participants was minimal and the only link to the participants' identity would be the informed consent; therefore, no informed consent was required.

OPM sent the participants an email containing a link to the 2010 Federal Employee Viewpoint Survey. The participants used the link to access the survey at a time and location convenient to their situation depending on the employee's participation in the telework program. The responses to the Likert scale survey were captured electronically when the employee clicked the submit button at the end of the survey.

This quantitative study used a secondary data set and no interaction with participants occurred as part of this study. The survey instrument used by OPM was self-administered and no debriefing procedures were employed on an individual basis. Results were supplied to individual agencies for specific workgroups, which were shared and discussed in a workgroup setting by the workgroup managers.

Data Collection

The 2010 Federal Employee Viewpoint Survey was administered to measure employees' perceptions regarding how federal agencies are managing their respective workforce by OPM (2010a). The survey was administered previously in 2002, 2004, 2006, and 2008 (OPM, 2010a). The 2010 Federal Employee Viewpoint Survey targeted full-time, permanent employees of federal agencies throughout the federal government and was administered during February and March of 2010 (OPM, 2010a). The survey participants included 82 federal agencies. The survey was administered as a census to the participating agencies. The survey used a probability sample to reach the target

population. Employees were invited to participate in the survey using email solicitation and a web-based questionnaire. Paper questionnaires were available upon request. The response rate was 52% based on 504,609 receiving surveys and 263,475 participants completing the survey. The survey was a self-administered web-based survey instrument similar to the method used in the last four administrations of the survey. The 89 item survey included 11 demographic questions; however, the demographic questions did not violate the anonymity of the participants (OPM, 2010b).

Access to Data Set

The survey website (OPM, 2010a) for the 2010 Federal Employee Viewpoint Survey contained basic information and descriptive statistics concerning the survey. However, the data set for the survey was not located on the survey website. To obtain the data set and permission to use the data set, I contacted OPM as described below. The data set is available on the Internet and can be found at http://www.fedview.opm.gov/2010 /EVSDATA/ and is available to the public.

The data set is available in two file formats. The file versions available are the CSV version and the SAS version (OPM, 2010b). The zip file contained two files. The first file was the 2010 Federal Employee Viewpoint Survey Codebook shown in Appendix D. The second file of the data set was named EVS2010_PRDF.cvs. The data set was not downloaded until after approval from Walden University's Institutional Review Board (IRB).

Permission to Use Data Set

The data set used in this study, 2010 Federal Employee Viewpoint Survey, was used with permission from OPM and considered to be in the public domain. The 2010 Federal Employee Viewpoint Survey was distributed by OPM. I sent an email to OPM in early 2012 to validate that the data set was available to the public and to gain access to data set for the 2010 Federal Viewpoint Survey. I received a reply from OPM providing the Internet address to the public files regarding the survey for years 2004 through 2011. This permission was provided by email and is included in Appendix F. In early 2014, I again verified permission to use the data through an online request with OPM, which is also included in Appendix F.

Instrumentation

The 2010 Federal Employee Viewpoint Survey was created by OPM and first administered in 2002 as the 2002 Federal Human Capital Survey (OPM, 2010a). The survey was administered biannually until 2010 (OPM, 2010a). The survey was renamed the Federal Employee Viewpoint Survey in 2010 and from 2010 forward has been administered annually. The 2010 Federal Employee Viewpoint Survey was the only instrument used in this study.

The 2010 Federal Employee Viewpoint Survey was appropriate for this study for several reasons. The survey reached the targeted population of IRS frontline managers and the control group consisting of frontline managers from the remainder of the Department of the Treasury based on the codebook (OPM, 2010b). The survey provided relevant demographic data to support this study. Previous research identified gender and

minority status as covariates in similar studies (Bright, 2010; Choi & Rainey, 2013; Stringer et al., 2011). Schay and Fisher (2013) found that perceptions of pay-for-performance compensation systems plateau after the fourth year of implementation. As the frontline managers were pay banded in 2005 (TIGTA, 2007), the 2010 Federal Employee Viewpoint Survey provided data at this point in the implementation process.

The reliability and validity results of the 2010 Federal Employee Viewpoint Survey were found only twice in the reviewed literature (Fernandez & Maldogaziev, 2013; Fernandez, Cho, & Perry, 2010). Fernandez et al. (2010) used a higher-order CFA and the results indicated integrated leadership to have five dimensions. The comparative fit index (CFI) was .91, indicating the five-dimension model was a good fit (Fernandez et al., 2010). The normed fit index (NFI) statistic was .91 and the root mean error of approximation (RMSEA) was .09, which indicated both are acceptable for the five-dimension model (Fernandez et al., 2010). The parsimony ratio (PRATIO) was .71 and parsimony normed fit index (PNFI) was .66, which indicated a reasonable parsimonious fit (Fernandez et al., 2010). The Cronbach's alpha was .95 (Fernandez et al., 2010). Fernandez and Maldogaziev (2013) used a CFA to analyze employee empowerment. The model yielded four dimensions with a CFI .94, NFI of .94, RMSEA of .09, PRATIO of .76, and PNFI of .71 (Fernandez & Maldogaziev, 2013). An analysis of the 2010 Federal Employee Viewpoint Survey and a prior version, 2008 Federal Human Capital Survey, both indicated the instrument was reliable and valid.

The Federal Employee Viewpoint Survey has been used exclusively with the federal workforce of the United States. The survey was first administered in 2002 and

subsequently administered in 2004, 2006, and 2008 (OPM, 2010a). In 2010, the survey was renamed the Federal Employee Viewpoint Survey and began being administered annually with administration in 2011, 2012, 2013, and 2014. The survey was designed to capture the perceptions of federal employees and provide management of federal agencies information to improve job satisfaction and human capital management (OPM, 2010a). The cross-sectional nature of the survey instrument reduced internal validity. CFA was used to determine external validity. Cronbach's alpha was used to determine reliability.

This study used the 2010 Federal Employee Viewpoint Survey data as the only data source. Therefore, there was no development of original instruments, no description of the basis for the development of original instruments, and no literature reviewed to develop instruments for this study. This study only included statistical analysis of the 2010 Federal Employee Viewpoint Survey data set, which is in the public domain.

Reliability describes the extent to which an instrument yields consistent results through repeated administrations. The instrument was analyzed to determine internal consistency using Cronbach's alpha. The test/retest method of analyzing reliability was not feasible as the participants could not be identified to facilitate a retest. The alternative forms method of testing reliability could not be used as this method also requires the same participants as the original survey and the participants cannot be identified.

Validity is the degree to which a measurement captures the specific concept the researcher is seeking to measure. The three traditional forms of validity are content, criterion, and construct (Creswell, 2009). Construct validity will be tested using a CFA.

Convergent validity measures the extent of a scales positive correlation with other measures of the same construct. Convergent validity will be evaluated with a CFA with acceptable results being that the composite reliability (CR) is greater than the average shared variance (AVE) and the AVE being greater than .05. Discriminant validity is the extent a scale does not correlate with other constructs. Discriminant validity will be evaluated with a CFA with acceptable results being that the maximum shared variance (MSV) being less than the AVE and the average shared variance (ASV) is less than the AVE.

The treatment group was the frontline managers within the IRS, who have been exposed to the pay-for-performance system known as pay banding. The frontline managers of the remainder of the Department of the Treasury have not been exposed to pay banding and make up the control group. Pay banding was the treatment.

The only data used in this study was produced from a survey instrument developed and distributed by OPM. The survey originated in 2002 as the Federal Human Capital Survey, which was renamed Federal Employee Viewpoint Survey in 2010. “The findings from the 2010 survey offer a snapshot of Federal employees’ perceptions of workforce management in their agencies today” (OPM, 2010a, p. 7). Agencies use the “trends across the surveys” to measure “how far they have come and what remains to be done” (OPM, 2010a, p. 7).

The Federal Employee Viewpoint Survey, formally the Federal Human Capital Survey, has been used exclusively by OPM. The purpose of the survey was to capture the

employees' perception of their agencies success. The population has consistently been permanent, full-time federal employees over the age of 18 (OPM, 2010a).

This study relied solely on the 2010 Federal Employees Viewpoint Survey data set. No instrument was developed for this study and no other data sources were used for this study. The 2010 Federal Employee Viewpoint Survey data set was sufficient to answer the research questions. This study was conducted without any financial contributions and no community partners were used.

Operational Definition of Variables

There were seven variables in this study. Each of these variables had a specific measurement and score calculation based on the 2010 Federal Employee Viewpoint Survey and the statistical analysis employed in this study. The variables were job satisfaction, pay banding, generational cohort, generational times cohort, intention to leave, gender, and minority status. The variables were operationally defined for this study. The variables measurement was explained. Finally, how the variable's scores were calculated was discussed.

Job Satisfaction

Job satisfaction was an outcome variable in RQ1 through RQ4. However, job satisfaction was a predictor variable in RQ5. Exploratory factor analysis was used to reduce variables purporting job satisfaction to a single variable. Therefore, job satisfaction was a continuous variable. Individual job satisfaction questions were measured in the 2010 Federal Employee Viewpoint Survey on a 5-point Likert scale. Exploratory factor analysis determined which variables from question 1 through question

78 fit within a component for job satisfaction. The 78 questions used were originally measured as shown in the codebook, located in Appendix D.

Pay banding

Pay banding was a dichotomous variable. The sample of the 2010 Federal Employee Viewpoint Survey provided a string variable identifying the sub-element (SUBELEM) of each agency. The survey sample was initially reduced to the Department of the Treasury by using the agency variable (AGENCY). The sample was further reduced to frontline managers who were identified by the string variable in question 80 (DSUPER) as choice "B" Supervisor. Supervisor was defined by the 2010 Federal Employee Viewpoint Survey as "frontline supervisors that do not supervise other supervisors; typically those who are responsible for employees' performance appraisals and approval of their leave" (see Figure 1). In the string variable SUBELEM, the IRS was coded as TR93 and the remainder of the Department of the Treasury was coded TR35, TR40, TR91, TR95, TRAA, TRAB, TRAD, TRAF, TRAI, TRAJ, and TRTG. SUBELEM was recoded into a new variable called PAY BAND. The IRS, TR93, was coded as 1 for pay banded and the remainder of the Department of the Treasury agencies was recoded as 0 for GS compensation.

Generational Cohort

Generational cohort was a categorical predictor variable that represented the three generations in the workforce: Baby Boomer generation and Generation X. Question 84 of the 2010 Federal Employee Viewpoint Survey was a demographic string variable (DAGEGRP) which measured the respondent's age group measured on a scale of B

through F. DAGEGRP coded F (60 or older) and E (50-59) were recoded to 1 for the Baby Boomer generation. DAGEGRP coded D (40-49) and C (30-39) were recoded to 2 for Generation X.

Generational Times Cohort

Generational times cohort was a categorical predictor variable that represented the five generational segments of the larger generational cohort similar to those identified by Kupperschmidt (2000). Question 84 of the 2010 Federal Employee Viewpoint Survey was a demographic string variable (DAGEGRP) which measured the respondent's age group using the scale of B through F. DAGEGRP coded F (60 or older) was recoded to 1 for Early Baby Boomer generational times cohort. DAGEGRP coded E (50-59) was recoded to 2 for Late Baby Boomer generational times cohort. DAGEGRP coded D (40-49) was recoded to 3 for Early Generation X generational times cohort. DAGEGRP coded C (30-39) was recoded to 4 for Late Generation X generational times cohort.

Intention to Leave

Intention to leave was a dichotomous outcome variable representing the frontline manager's intention to leave the organization, other than retirement, or to remain with the organization. Question 88 of the 2010 Federal Employee Viewpoint Survey was a string variable (DLEAVING) which measured the respondent's intent to leave the organization on a scale of A through E. DLEAVING coded A (No) and B (yes to retire) were recoded to 0 for no intention to leave their current organization. DLEAVING coded C (yes, to take another job within the federal government), D (yes, to take another job outside the

federal government) and E (yes, other) were recoded to 1 for intention to leave their current organization for reasons other than retirement.

Gender

Gender was a dichotomous covariate representing the participant's gender. Question 81 of the 2010 Federal Employee Viewpoint Survey is a string variable (DSEX) which measured the respondent's participant's gender on a scale of A being male and B being female. The variable was recoded into a variable named GENDER and measured on a scale of 0 for male and 1 for female.

Minority Status

Minority status was a dichotomous covariate representing the participant's minority status. Question 82 and question 83 of the 2010 Federal Employee Viewpoint Survey were scored in one dichotomous variable (DMINORITY) which was measured on a scale of 1 for minority and 2 for non-minority. The variable was recoded to a scale of 0 for non-minority and 1 for minority. While females are at times considered a minority, the demographics of the 2010 Federal Employee Survey only considered race and ethnicity for inclusion as a minority. Females are represented under the gender variable and constituted 47.1% of the sample.

The 2010 Federal Employee Viewpoint Survey measured employee perceptions and demographic information using Likert scale type questions and answers. The variables used in this study are presented below with how each variable was measured.

The variable measurement for generational cohort and generational times cohort both used question 84 from the 2010 Federal Employee Viewpoint Survey, see Table 9.

The generational cohort variable used B to represent Generation Y, C and D to represent Generation X, leaving E and F to represent the Baby Boomer generation. The generational times cohort used B to represent the Early Generation Y cohort, C to represent the Late Generation X cohort, D to represent the Early Generation X cohort, E to represent the Late Baby Boomer cohort, and F to represent the Early Baby Boomer cohort.

Table 9

Variable Measurement for Generational Cohort and Generational Times Cohort

Question number	Question	Value labels	
84	What is your age group?	[B]	29 and under
		[C]	30-39
		[D]	40-49
		[E]	50-59
		[F]	60 or older

The variable measurement for pay banding used agency code TR to identify the Department of the Treasury. The sub-element codes used by the survey are four alpha-numeric characters long. The first two characters are the agency code, such as TR, and the second two characters identify the sub-element, such as 93 for the IRS. Therefore, the code for the IRS is TR93. All participants coded TR93 were considered IRS managers, who are pay banded. The remainder of the TR codes was considered the control group, which are not pay banded.

The measurement of the job satisfaction variable used 78 questions and exploratory factor analysis to determine which variables were reduced to a continuous

variable of job satisfaction. Questions 1 through 78 of the survey were used in the exploratory factor analysis. The questions and value labels are included in Appendix D.

The measurement of the intention to leave variable used question 88 of the 2010 Federal Employee Viewpoint Survey, see Table 10. Values A and B were considered as not intending to leave. Values C, D, and E were considered as intending to leave.

Table 10

Variable Measurement for Intention to Leave

Question number	Question	Value labels
88	Are you considering leaving your organization within the next year, and if so, why?	[A] No [B] Yes, to retire [C] Yes, to take another job within the Federal Government [D] Yes, to take another job outside the Federal Government [E] Yes, other

The measurement of the control variables used questions 81, and an unnumbered question between question 81 and question 84 of the 2010 Federal Employee Viewpoint Survey, see Table 11.

Table 11

Variable Measurement for Gender and Minority Status

Question number—Variable	Question	Value labels
81 - Gender variable	Are you?	[A] Male [B] Female
Unnumbered question - Minority variable		[1] Minority [2] Non-minority

Job satisfaction was a continuous variable. The variable was constructed using exploratory factor analysis to determine the components of the 78 question Likert scale 2010 Federal Employees Viewpoint Survey. Exploratory factor analysis reduced a selection of 78 variables into components that measure the same construct. Exploratory factor analysis also reduced redundancy and reduced multicollinearity. The results of the exploratory factor analysis are discussed in Chapter 4.

Intention to leave was a dichotomous outcome variable representing the frontline manager's intention to leave the organization, other than retirement, or to remain with the organization. Question 88 of the 2010 Federal Employee Viewpoint Survey was a string variable (DLEAVING) which measured the respondent's intent to leave the organization on a scale of A through E. DLEAVING coded A (No) and B (yes to retire) was recoded to 0 for no intention to leave their current organization. DLEAVING coded C (yes, to take another job within the federal government), D (yes, to take another job outside the federal government) and E (yes, other) were recoded to 1 for intention to leave their current organization for reasons other than retirement.

Gender was a control variable that was coded as 0 for male and 1 for female. This required recoding the data set from A for male to 0 and from B for female to 1. Minority status was also a control variable that was coded as 0 for non-minority status and 1 for minority status. This required recoding the data set from 2 for non-minority to 0.

Data Analysis Plan

The data analysis plan had several elements including the software used for statistical calculations, followed by an explanation of how the data cleaning and screening of the data were conducted after the data were downloaded from OPM. The research questions and hypotheses are restated to assist in the description of the data analysis plan. The data analysis plan provided a detailed explanation of how each hypothesis was tested. The data analysis plan for this study followed Figure 3.

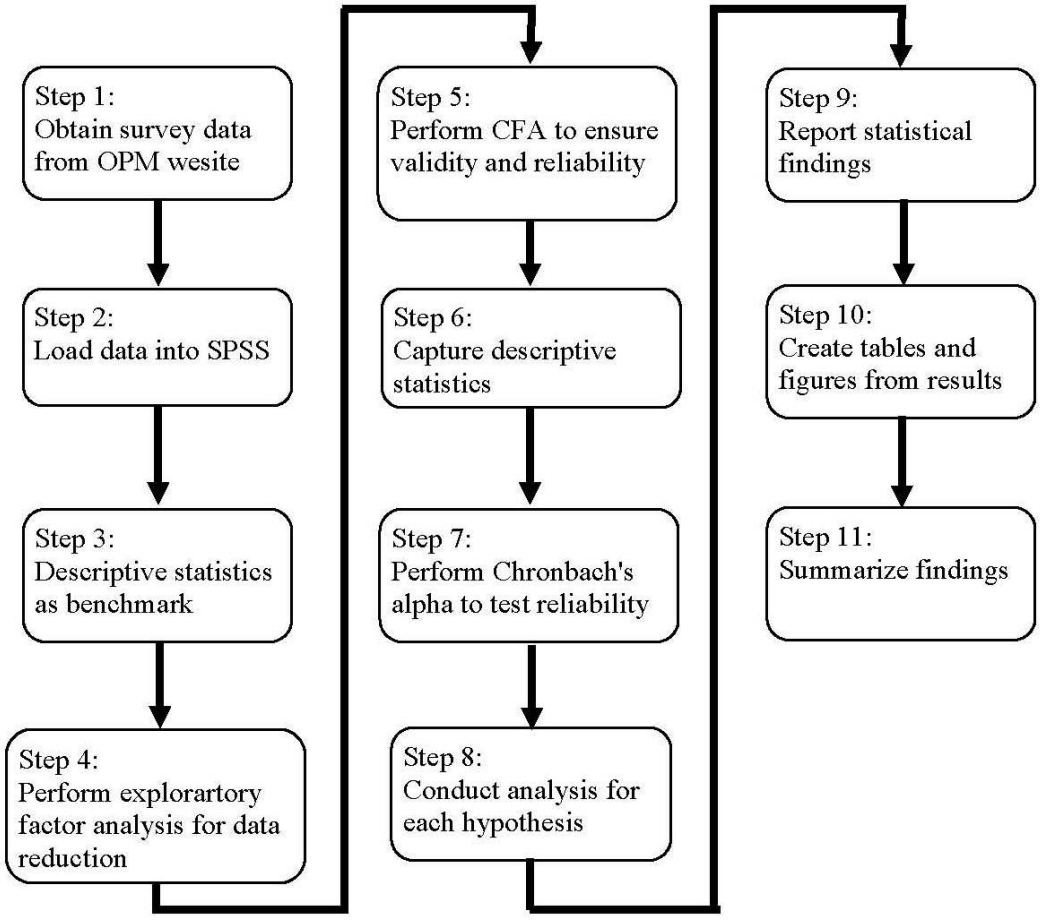


Figure 3. Data analysis plan. The data analysis plan illustrates the approach of this study in testing and analyzing the data.

Software Used in This Study

This study used three different software packages to analyze the data from the 2010 Federal Employee Viewpoint Survey and establish sampling requirements to achieve adequate power levels. G*Power3.1 (Faul et al., 2009) was used to determine proper sample sizes for each statistical test in this study. SPSS version 22.0 was used to conduct statistical calculations of the 2010 Federal Employee Viewpoint Survey dataset. IBM SPSS Analysis of Moment Structures (AMOS) version 22.0 was used to conduct CFA.

Data Cleaning and Screening

The secondary data set from the 2010 Federal Employee Viewpoint Survey required proper set-up for statistical analysis. The first step was to reduce the data to the target population. Before making any changes to the data set, the frequencies function under descriptive statistics (Analyze → Descriptive Statistics → Frequencies) in SPSS version 22.0 was used to determine the number of participants in the Department of the Treasury. The data set was reduced to Department of the Treasury participants only and another set of frequencies was run to ensure the data set was properly reduced. This procedure was repeated to reduce the Department of the Treasury participants to the target population of frontline managers.

The codebook indicates that there are variables containing string data within the data set. SPSS will not statistically analyze string data. Again, the frequencies function was used to determine the data were properly transformed from string data to numerical data.

The data set was screened for missing data. There are several options for dealing with missing data depending on the amount of missing data, the pattern of missing data, and the sample size needed to support an appropriate power level. Cases with missing data from the variables used in the analysis were deleted unless the missing data could be imputed. Imputing the mean of the variable for the missing data provides an estimation of the missing data. Missing data were assessed once the data set was available to be analyzed, after IRB approval of this study.

Outliers represent data that appears to be usual to the data set in its relative position to the other responses. Outliers can be dealt with in several ways. Cases with outliers can be deleted; however, this reduces sample size and affects the power level. Outliers can also be treated as missing data. The score of an outlier can also be changed to the next closest mean of a non-outlier data point. Treatment of outliers relied on deletion for this study.

Research Questions and Hypotheses

Each research question is presented below followed by null hypothesis (H_0) and alternative hypothesis (H_1). The five research questions are consistent throughout this study. The independent variable (IV), dependent variable (DV), and mediating or moderating variable (MV) are identified within each research question, null hypothesis, and alternative hypothesis.

RQ1: Does the generational theory explain the differences in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) among

frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$1: There is no statistically significant difference in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$1: There is a statistically significant difference in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

RQ2: Does generational theory explain differences in generational perceptions regarding job satisfaction (DV) between generational times cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$2: There is no statistically significant difference in generational perceptions regarding job satisfaction (DV) between generational times cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$2: There is a statistically significant difference in generational perceptions regarding job satisfaction (DV) between generational times cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

RQ3: To what extent does pay banding (MV) mediate the relationship between generational perceptions regarding job satisfaction (DV) between generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$3: Pay-for-performance, specifically pay banding (MV), does not mediate the relationship between generational perceptions regarding job satisfaction (DV) and generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$3: Pay-for-performance, specifically pay banding (MV), significantly mediates the relationship between generational perceptions regarding job satisfaction (DV) and generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

RQ4: To what extent does pay banding (MV) moderate the relationship between generational perceptions regarding job satisfaction (DV) between generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$4: Pay-for-performance, specifically pay banding, does not moderate the relationship between generational perceptions regarding job satisfaction (DV) and generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$4: Pay-for-performance, specifically pay banding, significantly moderates the relationship between generational perceptions regarding job satisfaction (DV) and

generational times cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

RQ5: Does generational perceptions (IV), minority status (IV), gender (IV), pay banding (IV), job satisfaction (IV), performance equity (IV), and work-life balance (IV) predict the intent to leave the agency (DV) among frontline managers of the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$5: No relationship exist between generational perceptions, minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance in the prediction of intent to leave the agency among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$5: A negative relationship exist between generational perceptions, minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance in the prediction of intent to leave the agency increasing the intent to leave the agency among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$5A: Generational perceptions has a significant negative effect on frontline managers' intent to leave the agency when minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5B: Minority status has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, gender, pay banding, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5C: Gender has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, pay banding, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5D: Pay banding has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5E: Job satisfaction has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, pay banding, performance equity, and work-life balance are included in the analysis.

$H_1$5F: Performance equity has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, pay banding, job satisfaction, and work-life balance are included in the analysis.

$H_1$5G: Work-life balance has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, pay banding, job satisfaction, and performance equity are included in the analysis.

Statistical Analysis of Hypotheses

Each hypothesis is presented below followed by the plan for analysis related to that specific hypothesis. The analysis plan for each hypothesis provides the statistical test(s) used and the parameters of the test(s). The plan includes a description of the statistical test(s) required to satisfy required assumptions of the statistical tests. The order of presentation of the analysis for each is the null hypothesis (H_0), alternative hypothesis (H_1), statistical test, and statistical assumptions related to the statistical test.

All statistical analyses were performed using SPSS version 22.0. Descriptive statistics were provided at the beginning of the data analysis. Exploratory factor analysis was conducted on question 1 through question 78 of the 2010 Federal Employee Viewpoint Survey to reduce this large set of variable to principal components, specifically, a principal component of job satisfaction. Once a job satisfaction factor was identified, a reliability test using Cronbach's alpha (α) was used to determine the internal consistency of the job satisfaction component.

Analysis of *H*1. The dependent variable was job satisfaction, a continuous variable. The independent variable was generational cohorts, a categorical variable with two categories. The participants in each category were different as each participant only fits into one category. Statistical assumptions were met. Using the statistical test selection tree presented in Figure 2, the characteristics of the variables in *H*1 dictated the use of the one-way independent ANOVA to determine group mean differences. A follow-on hierarchical multiple regression was used to determine how the independent variables: generational cohorts, minority status, gender, and pay banding affected the dependent variable, job satisfaction. Table 5 explains how the variable characteristics were used to determine that ANOVA and hierarchical multiple regression would be used for analyses of *H*1.

The assumptions of the one-way independent ANOVA were tested in the following order: (a) there are no outliers in any of the groups, (b) each group's data is approximately normally distributed, and (c) the groups have equal variances (Field, 2013). The assumptions for hierarchical multiple linear regression are independence of

errors or residuals; a linear relationship between the predictor variables and the dependent variables; homoscedasticity of residuals or equal error variances; no multicollinearity; no significant outliers or influential points; and errors or residuals are normally distributed (Field, 2013). The one-way ANOVA and hierarchical multiple regression were performed with a 95% confidence interval, significance of .05, and two-tailed.

Analysis of *H*2. The dependent variable was job satisfaction, a continuous variable. The independent variable was generational times cohorts, a categorical variable with four categories. The participants in each category were different as each participant only fits into one category. Statistical assumptions were met. Using the statistical test selection tree presented in Figure 2, the characteristics of the variables in *H*2 dictated use of the one-way independent ANOVA. A follow-on hierarchical multiple regression was used to determine how the independent variables: generational times cohorts, minority status, gender, and pay banding affected the dependent variable, job satisfaction. Table 6 explains how the variable characteristics were used to determine that ANOVA and hierarchical multiple regression would be used for analyses of *H*2.

The assumptions of the one-way independent ANOVA are tested in the following order: (a) there are no outliers in any of the groups, (b) each group's data is approximately normally distributed, and (c) the groups have equal variances (Field, 2013). The assumptions for hierarchical multiple linear regression are independence of errors or residuals; a linear relationship between the predictor variables and the dependent variables; homoscedasticity of residuals or equal error variances; no multicollinearity; no significant outliers or influential points; and errors or residuals are normally distributed

(Field, 2013). The one-way ANOVA and hierarchical multiple regression were performed with a 95% confidence interval, significance of .05, and two-tailed.

Analysis of *H*3. The dependent variable was job satisfaction, a continuous variable. The independent variable was generational cohorts, a categorical variable with two categories. A second mediation analysis was conducted using generational times cohorts as the independent variable, a categorical variable with four categories. The mediator variable was pay banding, a dichotomous variable. The participants in each category were different as each participant only fits into one category. Statistical assumptions were met. Using the statistical test selection tree presented in Figure 2, the characteristics of the variables in *H*3 dictated the use of multiple regression. The Barron and Kenny's mediation procedures were used to determine the effect of the mediator variable (Hayes, 2013).

*H*3 was analyzed using multiple regression. The IV was composed of two categorical groups for generational cohorts and four categorical groups for generational times cohorts. The participants in each group were different. The assumptions of multiple regression are no significant outliers, two or more independent variables; dependent variable is continuous, independence of errors or residuals, linear relationship of predictor variables, homoscedasticity of residuals, no multicollinearity, and approximate normality of data distribution (Field, 2013). The linear multiple regression was performed with a 95% confidence interval, significance of .05, and two-tailed.

*H*3 questions whether pay banding had a mediating effect. For mediation to be present, the IV must predict the DV, the IV must predict the MV, and the MV must

predict the DV (Hayes, 2013) while decreasing the significance of the IV on the DV. Table 6 explains how the variable characteristics were used to determine that mediation analysis would be used for analysis of *H*3.

Analysis of *H*4. The dependent variable was job satisfaction, a continuous variable. The independent variable was generational cohorts, a categorical variable with two categories. A second moderation analysis was conducted using generational times cohorts as the independent variable, a categorical variable with four categories. The moderator variable was pay banding, a dichotomous variable. The participants in each category were different as each participant only fits into one category. Statistical assumptions were tested. Using the statistical test selection tree presented in Figure 2, the characteristics of the variables in *H*4 dictated the use of multiple regression. The Barron and Kenny's moderation procedures were used to determine the effect of the moderator variable (Hayes, 2013).

*H*4 was analyzed using multiple regression. The IV was composed of categorical groups. The participants in each group were different. The assumptions of linear multiple regression are no significant outliers, two or more independent variables, dependent variable is continuous, independence of errors, linear relationship of predictor variables, homoscedasticity of residuals, no multicollinearity, and approximate normality of data distribution.(Field, 2013). The linear multiple regression was performed with a 95% confidence interval, significance of .05, and two-tailed.

*H*4 questions whether pay banding acted as a moderator. The IV and MV were converted to standardized scores (Z). The standardized scores of the ZIV and ZMV were

multiplied together to create an interaction (ZI). The IV, MV, DV, and ZI were entered into a multiple regression to determine whether pay banding moderates the relationship. Table 6 explains how the variable characteristics were used to determine that moderation analysis would be used for analysis of *H*4.

Analysis of *H*5. The dependent variable was intent to leave, a dichotomous variable. The independent variables were generational cohorts or generational times cohorts, minority status, gender, pay banding, performance equity, work-life balance, and job satisfaction. The participants in each category were different as each participant only fits into one category. Using the statistical test selection tree presented in Figure 2, the characteristics of the variables in *H*5 dictate the use of logistic regression.

*H*5 was analyzed using logistic regression. Logistic regression was used for this hypothesis since the DV was categorical. The statistical assumptions for logistic regression are independence of cases, a linear relationship between the continuous independent variables and the dependent variable, no multicollinearity, no significant outliers, and categories are mutually exclusive and exhaustive (Field, 2013). The logistic regression used generational cohorts or generational times cohorts, minority status, gender, pay banding, performance equity, work-life balance, and job satisfaction as the IVs. The DV was intent to leave the organization. Table 6 explains how the variable characteristics were used to determine that logistic regression would be used for analysis of *H*5.

Statistical Assumptions

Statistical assumptions were met to perform the statistical testing for *H*1 through *H*4. Statistical assumptions are not applicable to *H*5. However, *H*5 statistical assumptions of logistic regression were met.

Outliers. Outlier refers to standard deviations greater than +3.29 from the mean (Field, 2013). SPSS identifies outliers using box plots. Outliers can be dealt with in several ways: (a) remove the case presenting the outlier, (b) transform the data, or (c) changing the score (Field, 2013).

Normal distribution. Normality was assessed visually using the skewness and kurtosis values to calculate z-scores. The z-scores for both skewness and kurtosis should be +2.58 for large samples and +1.96 for small samples (Field, 2013) to be considered as having normality of distribution. The z-score was calculated by dividing skewness by the standard error for skewness and dividing kurtosis by the standard error for kurtosis (Field, 2013). The Shapiro-Wilk's test was significant; therefore, normality of distribution was assessed visually. Normality of distribution was assessed visually using histograms.

Homogeneity of variances. Homogeneity of variances was assessed using Levene's Test for Equality of Variances. A nonsignificant Levene's test indicates the variances are considered equal (Field, 2013). The one-way independent ANOVA in SPSS offers the option of calculating the Levene's test.

Independence of errors. Independence of error or residuals was tested with the Durbin-Watson test. The Durbin-Watson statistic can range from 0 to 4, but a value of approximately 2 indicates that there is no correlation between residuals (Field, 2013). A

Durbin-Watson statistic of less than 1 or greater than 3 is a cause for concern (Field, 2013).

Linear relationship of predictor variables. Multiple regression assumes that the independent variables collectively are linearly related to the dependent variable (Field, 2013). It was also assumed that each independent variable is linearly related to the dependent variable (Field, 2013). Linearity was assessed using scatter plots in SPSS and a linear fit line.

Homoscedasticity of residuals. Homoscedasticity of residuals assumes that the residuals are equally spread over all values of the predicted dependent variable (Field, 2013). If the errors are not equally spread over the predicted values of the dependent variable, then the assumption of homogeneity of variance would be violated (Field, 2013). Homoscedasticity was assessed by using a scatter plot in SPSS for the dependent variable and determining a linear fit line.

Multicollinearity. Multicollinearity occurs when there are two or more highly correlated independent variables (Field, 2013). When multicollinearity occurs, it becomes difficult understanding which variable contributes to the variance and technical issues in calculating a multiple regression model (Field, 2013). Multicollinearity is not an issue if the tolerance statistic is greater than .2 and the variance inflation factor (VIF) below 10 (Field, 2013).

Threats to Reliability and Validity

Surveys and tests are not perfectly reliable (Litwin, 2003). Reliability of an instrument is primarily determined through three forms: test-retest, alternate form, and

internal consistency (Creswell, 2014). This study was limited to internal consistency for determining reliability. Since OPM did not conduct test-retest or alternate question testing with the instrument, internal consistency was the only measure of reliability available. Cronbach's alpha (α) is typically used to determine reliability of measurement (Field, 2013). The alpha coefficients (α coefficient) were compared to the lower limit established by Cronbach (1951), α coefficient $\geq .70$.

Validity questions about a researcher's ability to make a conclusion about the results of a study are termed as threat to validity (Creswell, 2014). Threats to validity are internal or external. There are other threats such as statistical conclusion validity and construct validity.

External Validity Threats

Threats to external validity are concerned with making incorrect generalizations to other populations or other events (Creswell, 2014). These threats are primarily concerned with the participants' characteristics, setting, or the experiment being time-bound. These threats can be avoided by the researcher. The threat of interaction of selection and treatment deals with the characteristics of the studied participants being too narrow to generalize to another group. The researcher in this instance would simply avoid making such generalizations. The threat of interaction of the setting and treatment refers to the characteristics of the setting of the experiment (Creswell, 2014). In this study, the setting depended on the participant and ranged from their office to their home depending on where they elected to take the survey. If setting were an issue, the researcher could conduct the study in a new setting. This was not possible with the data set used. The

threat of interaction between history and treatment is concerned with the experiment being time-bound. To alleviate this threat, the researcher should be cautious about making a generalization from one period of time to another period of time. This study did not make generalizations about other populations or settings. The purpose of this study was to determine the effect of pay banding on a specific population. However, this study has furthered the public policy discussion surrounding pay-for-performance, which may lead to other populations being studied.

Internal Validity Threats

Threats to internal validity are concerned with the study's procedures and experiences of the participants (Creswell, 2014). History, maturation, statistical regression, and experimental mortality are internal threats that deal with lengthy studies and the effect of the duration of the study on the participants. History is an internal threat dealing with participants being influenced by events that were not part of this study. Maturation, like history, deals with opinions of participants changing as they mature over time. Statistical regression deals with extreme scores of participants moving toward the mean during re-test. Experimental mortality deals with participants deciding not to continue with the study. The instrument used was a cross-sectional survey. History and maturation did not influence the results of the 2010 Federal Employee Viewpoint Survey. Regression was not possible since there was no re-test and mortality was not possible since the participant either completed the survey or did not complete the survey. Those not completing the survey were considered as non-responses. Testing is a threat to internal validity if the participants become familiar with the outcome sought by the test

during re-testing. However, this survey only measures the participant's opinion concerning the variables leaving no outcome measure to achieve. Instrumentation changes can influence scores due to changes in the instrument from the pre-test to the post-test. Again, this was not possible as there is no re-test.

The instrument used for this study was the 2010 Federal Employee Viewpoint Survey, which produced a single data set. The data were cross-sectional leaving no possibility of re-testing or the participant's responses to change over time. Therefore, internal validity was not impacted by history, maturation, statistical regression, experimental mortality, testing, and instrumentation. This study was not affected by the control group and the experimental group communicating, diffusion of treatment. Since there was no difference in the manner of treatment of the control group and the experimental group in this ex-post facto study, internal threat of compensatory resentful demoralization and compensatory rivalry were not an issue.

Statistical Conclusion Validity and Construct Validity Threats

Statistical conclusion validity threats are when researchers do not use enough power and violating assumptions of statistical testing (Creswell, 2014). Researchers should avoid their bias toward finding statistically significant findings. Statistical conclusion validity may occur when any of the following conditions are present: low statistical power, assumptions of statistical tests are violated; and researcher is fishing and contributing to the error rate. Low statistical power was avoided in this study by using a statistical power of .80 and using G*Power3 to calculate proper sample size for each statistical test. The assumptions and conventional testing procedures of each

statistical test were followed. Fishing for significant findings did not occur, but instead the results were presented and interpreted as indicated by the analyses.

Construct validity is concerned with researchers using adequate definitions and measures of the variables (Creswell, 2014). Variables and other definitions used in this study have been fully defined. The constructs or dimensionality measured in this study relied on exploratory factor analysis to extract the variable of job satisfaction. Exploratory factor analysis provided a scientific method of determining which survey questions measured the same construct as opposed to the researcher making decisions without a statistical test to support the decision.

Ethical Concerns and Procedures

This study had limited ethical concerns. The data used in this study was the data set for the 2010 Federal Employee Viewpoint Survey. There were no formal agreements regarding gaining access to the data set concerning this study. However, permission to use the secondary data collected by OPM was solicited on two occasions. The first solicitation for access to the data was on February 15, 2012, and the email exchange is provided in Appendix F. The second solicitation was through OPM's website by completing an online request on March 3, 2014; the response received on March 4, 2014, is located in Appendix F. Both requests resulted in OPM stating the data set was in the public domain and accessible to the public. The web address to gain access is http://www.fedview.opm.gov/2010/EVSDATA/. The aforementioned data set was not accessed or analyzed until approval from the Walden University IRB to conduct the study was received.

Walden University requires research to be conducted in accordance with university policies and existing federal regulations to ensure ethical treatment of participants. I completed the research ethics training, Protecting Human Research Participants, provided by the National Institutes of Health. The certificates of completion for the course is located in Appendix G. The completion of the required National Institutes of Health course meets the university requirement of being completed in the last five years. Once approval was received from the IRB, the Walden University IRB approval notification containing the Walden University IRB number 11-05-14-0229934 was placed in Appendix H.

Recruitment consisted of random selection of participants except for agencies that opted for a census sample (OPM, 2010a). The participants were provided an advanced notice email describing the time frames to complete the survey and the intended purpose of the survey (Standards and Guidelines for Statistical Surveys, 2006). The anonymity of the participant's identity was also assured by the advanced notice (Standards and Guidelines for Statistical Surveys, 2006). The survey was delivered via email and provided the procedures for completing the survey. Completing the survey was voluntary.

Data collection did not present any ethical concerns. As stated earlier, the survey was a voluntary, self-administered instrument. The participants received an advanced notice they would receive an invitation. The next communication was an email explaining the procedures to complete the survey and a link to the survey website. The participants were asked to complete 78 survey questions and 11 demographic questions (OPM, 2010a). Because the survey was a cross-sectional instrument, the results were not

affected by participants refusing to participate or withdrawing before completion of the survey instrument. The response rate of 52% (OPM, 2010a) indicates 48% either elected not to participate or withdrew before submitting the survey.

The data set for the 2010 Federal Employee Viewpoint Survey is available to the general public. The data set for the 2010 Federal Employee Viewpoint Survey was retrieved from http://www.fedview.opm.gov/2010/EVSDATA/ after Walden University IRB approval. As there was no risk of disclosure of personal information or confidential information, the data set was not protected with a password. The data used in this study will be retained in electronic format for a period of 7 years. The data has been stored in two locations. The data were stored on a removable hard drive and on a flash memory card in a safety deposit box. I am the only person with access to the modified data used for this study.

The data for the 2010 Federal Employee Viewpoint Survey was collected under the established procedures of the Federal Standards and Guidelines for Statistical Surveys (2006), the Confidential Information Protection and Statistical Efficiency Act of 2002, and the privacy provisions of the E-Government Act of 2002. These provisions dictate that federal agencies adhere to strict protection of respondent information. The survey was delivered predominately by email directly to the participant, paper copies of the survey were provided upon request (OPM, 2010a). The data set does not contain any information or combination of information that would enable a participant's identity to be determined. The data set only identifies the participants by an id number. There is no

conceivable method of determining an individual participant's identity among the 263,475 participants who completed the survey in 2010 (OPM, 2010a).

No consent forms were required for the survey as consent was evident by the participant's voluntary decision to click the survey link and complete the survey. OPM emailed 504,609 surveys and received 263,475 responses in 2010 (OPM, 2010a). The only demographic variables collected were whether the participant worked at a headquarters or field location, supervisory status, gender, minority status, age group, pay category, length of federal service, length of agency service, intent to leave an organization, and intention to retire (OPM, 2010b). The number of participants combined with a response rate of 52% (OPM, 2010a) strengthens the participants' anonymity. No unintentional breach of confidentiality was possible since the survey was self-administered through the Internet and no questions such as medical information or educational information were requested. No burden was placed on the participants of this study as the 2010 Federal Employee Viewpoint Survey was delivered without regard to this study. The participants in the survey were not a captive audience and were randomly selected for the survey, which was administered on a voluntary basis (OPM, 2010a) The survey was administered during normal work schedules of the participants and each participant determined if or when they would take the survey.

As discussed early, I participated in the 2010 Federal Employee Viewpoint Survey. I worked for the IRS and was a group manager at the time the 2010 Federal Employee Viewpoint Survey was administered. However, I had no positional authority over any of the participants in this study, which would have been my peers at the time of

the survey. No incentives were used during this study, since ex-post facto cross-section secondary data were used. This study does not pose a conflict of interest in that the outcome does not impact my job performance, does not directly benefit my supervisors or employees, and does not directly benefit me. There were no community partners associated with this study and no monetary compensation or grants were received as part of this study.

Summary

A quantitative research design was used to examine the effect of pay banding on generational perceptions of job satisfaction and intent to leave the agency by frontline managers employed by the IRS. The ex-post facto data from the 2010 Federal Employee Viewpoint Survey was used to answer the five research questions presented. The instrument was selected because it reached the target population and provided a large sample. Statistical analyses used numerous tests such as CFA, exploratory factor analysis, ANOVA, mediation analysis, moderation analysis, multiple regression, and hierarchical multiple regression to test the relationship between the variables. The tests were conducted *a priori*. The control variables for this study included gender and minority status. This research had few ethical concerns as it used secondary data. This research did not have any community partners and no vulnerable groups were targeted by this study or the original data collection by OPM. The data from the 2010 Federal Employee Viewpoint Survey is in the public domain. Walden University IRB approval was obtained before conducting any analysis of the data set.

Chapter 1 provided an introduction to this study. Chapter 2 reviewed the relevant literature related to research methodology, research design, and the theoretical framework. Chapter 3 explained the methodology that was employed to analyze data from the 2010 Federal Employee Viewpoint Survey. In Chapter 4, data analysis results and findings are reported. Chapter 4 also describes the results and whether or not the null hypotheses were accepted or rejected. Chapter 5 provides an interpretation of the results with the implications of social change, description of limitations, and recommendations for future research.

Chapter 4: Results

The purpose of this study was to determine the effect of pay banding on generational perceptions of job satisfaction and the impact of the variables in this study on frontline managers' intent to leave. TIGTA (2010,) stated, "The IRS implemented its Pay-for-Performance System to assist in recruiting, retaining, and motivating its managerial workforce" (p. 4). The effect of pay banding was evaluated first by determining the relationship between Department of the Treasury frontline managers' generational perceptions of job satisfaction. Pay banding's effect on job satisfaction was tested by a follow-on hierarchical multiple regression. Pay banding was then assessed as a mediating and moderating variable. The impact of the variables generational cohorts, generational times cohorts, minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance on intent to leave the agency was then assessed using a logistic regression to determine the effect on retention.

Each research question is presented below, followed by its null hypothesis (H_0) and alternative hypothesis (H_1). The five research questions were consistent throughout this study. The independent variable (IV), dependent variable (DV), and mediating or moderating variable (MV) are identified within each research question, null hypothesis, and alternative hypothesis.

RQ1: Does the generational theory explain the differences in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$1: There is no statistically significant difference in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$1: There is a statistically significant difference in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

RQ2: Does generational theory explain differences in generational perceptions regarding job satisfaction (DV) between generational time cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$2: There is no statistically significant difference in generational perceptions regarding job satisfaction (DV) and between generational time cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$2: There is a statistically significant difference in generational perceptions regarding job satisfaction (DV) and between generational time cohorts (IV) among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

RQ3: To what extent does pay banding (MV) mediate the relationship between generational perceptions regarding job satisfaction (DV) between generational time

cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$3: Pay-for-performance, specifically pay banding (MV), does not mediate the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational time cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$3: Pay-for-performance, specifically pay banding (MV), significantly mediates the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational time cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

RQ4: To what extent does pay banding (MV) moderate the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational time cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$4: Pay-for-performance, specifically pay banding, does not moderate the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational time cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$4: Pay-for-performance, specifically pay banding, significantly moderates the relationship between generational perceptions regarding job satisfaction (DV) between

generational cohorts (IV) or generational time cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

RQ5: Does generational perceptions (IV), minority status (IV), gender (IV), pay banding (IV), job satisfaction (IV), performance equity (IV), and work-life balance (IV) predict intent to leave the agency (DV) among frontline managers of the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey?

$H_0$5: No relationship exists between generational perceptions, minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance in the prediction of intent to leave the agency among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$5: A negative relationship exists between generational perceptions, minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance in the prediction of intent to leave the agency, increasing the intent to leave the agency among frontline managers employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

$H_1$5A: Generational perceptions has a significant negative effect on frontline managers' intent to leave the agency when minority status, gender, pay banding, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5B: Minority status has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, gender, pay banding, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5C: Gender has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, pay banding, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5D: Pay banding has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, job satisfaction, performance equity, and work-life balance are included in the analysis.

$H_1$5E: Job satisfaction has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, pay banding, performance equity, and work-life balance are included in the analysis.

$H_1$5F: Performance equity has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, pay banding, job satisfaction, and work-life balance are included in the analysis.

$H_1$5G: Work-life balance has a significant negative effect on frontline managers' intent to leave the agency when generational perceptions, minority status, gender, pay banding, job satisfaction, and performance equity are included in the analysis.

The methodology unfolded as described in Chapter 3 with only a few modifications. The data set was downloaded from the OPM website. The data were imported into SPSS version 22.0 for analysis. The case data were screened for missing data, and cases missing more than 10% of the responses were removed. Cases with standard deviations of less than .5 were reviewed individually to determine whether the participant was engaged. The engagement analysis found that cases with a standard deviation of less than .3 were not engaged and were removed. Data imputation was used

to replace missing data in the remaining cases. Variable data were screened for missing demographic data and removed since demographic data could not be imputed. Variables were also analyzed for kurtosis and removed if the kurtosis was greater than $\pm$ 2.0.

There were some adjustments related to the variables of the study. An exploratory factor analysis was conducted to determine which latent variables could be reduced into factors. A CFA was conducted to establish a reliable and valid model. The CFA yielded three variables: job satisfaction, performance equity, and work-life balance. Performance equity and work-life balance were added to the logistic regression in *H*5.

This study utilized an existing data set from the 2010 Federal Employee Viewpoint Survey. Utilizing an existing secondary data set means that a pilot study was not possible. The data set was already in existence and anonymous, preventing identification of participants and excluding the possibility of contacting any of the participants in the original survey. The nature and data collection timeframes of the data set exclude any pilot study and any follow-up with the participants of the survey.

The 2010 Federal Employee Viewpoint Survey was used to collect data by OPM in 2010. The data set from this survey was the only data set used in this study. The survey instrument was primarily a self-administered web-based survey, which provided and allowed paper submissions upon request. The participants were full-time employees who were 18 years of age and older. Participation was voluntary and anonymous. The response rate was 52% of the 504,609 employees invited to participate in the survey. The survey was completed by participants at their convenience during February and March of 2010. The data set was retrieved from the public domain and imported into SPSS version

22.0. Permission to use the data set was requested despite it being in the public domain. The data collection did not change from what was expected in the data collection description of Chapter 3.

The treatment group for this study was the frontline managers of the IRS, who had experienced pay banding. The control group for this study was the frontline managers of the Department of the Treasury who were not part of the IRS. The treatment, pay banding, supported differences between the treatment group and control group. There was no actual intervention conducted. The differences between the treatment group and control group were explored through the research questions and associated statistical testing.

The results of this study indicated that there was no difference of statistical or practical significance between the generation perceptions of job satisfaction among frontline managers within the Department of the Treasury. Pay banding had a negative effect on generational perceptions of job satisfaction. Pay banding did not mediate the relationship between generational perceptions and job satisfaction. However, pay banding did mediate the relationship between gender and job satisfaction. Pay banding did not moderate the relationship between generational perceptions and job satisfaction.

Logistic regression results indicated the intent to leave was correctly predicted in 81.1% of cases overall. The results indicated that generational cohorts ($p < .001$), pay banding ($p = .007$), job satisfaction ($p < .001$), and performance equity ($p = .001$) added significantly to the model. When the logistic regression used generational times cohorts in place of generational cohorts, the early Baby Boomer cohort ($p = .004$) added

significantly to the model, but the other generational times cohorts did not add significantly to the model.

The results of this study are presented in this chapter. The descriptive characteristics of the sample and data collection are described including treatment groups and control groups. There was no pilot study conducted because data were secondary data. Data screening and cleaning led to exploratory factor analysis as a means of data reduction of job satisfaction while assuring that the resulting model was reliable and valid. Therefore, the factor analysis in SPSS version 22.0 was followed by a confirmatory analysis in AMOS version 22.0. A discussion of the resulting sample and intervention are then discussed. The results are presented in three sections: results of the assumptions; results of the statistical testing including confidence interval, effect sizes, post hoc analysis, and additional unplanned statistical tests; and the results conveyed with tables. A summary and conclusion of the results provide a transition to Chapter 5.

The study presents five research questions shown earlier in the introduction. RQ1 and RQ2 ask if generational theory explains group differences in generational cohorts or generational times cohorts perceptions of job satisfaction. Results indicated there were no statistical or practical differences in the mean of the generational groups. Follow-on hierarchical multiple regression indicated pay banding significantly influenced job satisfaction. There were statistically significant generational perception differences of pay banding. Pay banding did not mediate the relationship between generational cohorts and job satisfaction. Pay banding did not moderate the relationship between generational perceptions and job satisfaction. RQ5 asked if the study variables could predict the intent

of a frontline manager to leave the agency. The logistic regression resulted in a statistically significant model ($p < .001$) accounting for 11.0% to 11.5%, based on whether generational cohorts or generational times cohorts were used in the model.

The results of this study suggest that there are more similarities among the frontline managers' perceptions concerning job satisfaction than differences. However, generational differences were statistically significant concerning pay banding ($p = .006$ for generational cohorts and $p < .001$ for generational times cohorts). In turn, pay banding significantly predicted job satisfaction. While pay banding did not mediate the relationship between generational cohorts or generational times cohorts and job satisfaction, pay banding did mediate the relationship between gender and job satisfaction. Pay banding along with generational cohorts, generational times cohorts, job satisfaction, and performance equity significantly predicted intent to leave the agency. Pay banding presented statistically significant negative effects for all of the research questions.

Data Collection

There were no discrepancies between the data collection described in Chapter 3 and the data collection experienced after the IRB approval. The historical data collection did not change as it was collected by OPM and the data set download process and incorporation into SPSS version 22.0 did not change. The only change experienced was that the unknown sample size became known.

The data set from the 2010 Federal Employee Viewpoint Survey was reduced to the frontline managers in the Department of the Treasury leaving 2,964 cases; however,

data cleaning further reduced the sample size to 2,525. The demographic characteristics of the frontline managers within the Department of the Treasury who responded to the 2010 Federal Employee Viewpoint survey are in Table 12.

The cases missing data in the generational variables, gender, minority and intent to leave variables were removed since demographic variables cannot reasonably be imputed without skewing the data and no variable exceeded a missing data percentage of 10%. The Baby Boomer generation accounts for over 50% of the sample based on generational cohorts and the Late Baby Boomer generational times cohort accounts for over 47% of the sample.

Data Screening

The data screening took place at the case level and the variable level. The data were screened at the case level for missing data, unengaged responses, and outliers. The data were screened at the variable level for missing data and normality.

Case Data Screening

Case data screening involved three criteria. First, cases missing more than 10% of the responses to the 78 latent variables were eliminated from the sample as non-responsive. Second, cases with standard deviation within the 78 latent variables falling below .5 were evaluated individually to determine whether the respondent was engaged in the survey. The analysis determined that the cases with a standard deviation below .3 were not engaged and were eliminated from the sample as not engaged. Hair, Black, Babin, and Anderson (2010) stated that missing data of less than 10% can generally be ignored.

Table 12

Demographic Descriptive Statistics

Variable	*N*	
Categories	*f*	*%*
Pay band	2,525	
Pay banded (IRS)	1,737	68.8%
Not pay banded	788	31.2%
Gender	2,525	
Female	1,334	52.8%
Male	1,191	47.2%
Minority	2,525	
Minority	824	32.6%
Nonminority	1.701	67.4%
Intent to leave	2,525	
No plans to leave	2.040	80.8%
Plans to leave	485	19.2%
Generational cohort	2,525	
Baby Boomer generation	1,479	58.6%
Generation X	1,046	41.4%
Generational times cohort	2,525	
Early Baby Boomer GTC	277	11.0%
Late Baby Boomer GTC	1,202	47.6%
Early Generation X GTC	858	34.0%
Late Generation X GTC	188	7.4%

Note. *N* = sample size, *f* = frequency.

The latent variables missing data after the aforementioned case deletions ranged from .1% to 5.7%. A data imputation procedure using median substitution for each latent variable to replace the missing data, based on all the variables having below 10% missing

data were used. Finally, outliers were not a concern since the data were ordinal with seven or less Likert-type scale questions. There were no extreme values since all values were within the values of the forced responses. This left no reason to remove high or low values.

Variable Screening

The sample size was further reduced by missing demographic data. The 31 cases missing gender demographic identification and the 104 cases missing minority demographic identification were removed. Four cases missing intent to leave identification were also removed. The other 23 cases missing intent to leave identification were resolved by using other variable information to extrapolate the appropriate responses. Several participants failed to identify multiple demographic categories which created an overlap in the number of missing data.

The latent variables were not analyzed for skewness since the data were Likert-type scale data and exhibited variance. The latent variables were analyzed for kurtosis. Latent variables with kurtosis greater than the absolute value of ± 2.0 were deleted. The latent variables deleted are shown in Table 13.

Table 13

Latent Variables Deleted Due to Kurtosis

	Latent variable	Kurtosis statistic
Q5	I like the kind of work I do.	2.503
Q7	When needed I am willing to put in the extra effort to get a job done.	8.168
Q8	I am constantly looking for ways to do my job better.	2.365
Q12	I know how my work relates to the agency's goals and priorities.	3.814
Q13	The work I do is important.	4.089
Q16	I am held accountable for achieving results.	3.796
Q26	Employees in my work unit share job knowledge with each other.	3.189
Q35	Employees are protected from health and safety hazards on the job.	2.278
Q38	Prohibited Personnel Practices (for example, 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.	2.764
Q39	My agency is successful at accomplishing its mission.	4.279
Q42	My supervisor supports my need to balance work and other life issues.	2.010
Q45	My supervisor/team leader is committed to a workforce representative of all segments of society.	2.265
Q49	My supervisor/team leader treats me with respect.	2.252
Q55	Managers/supervisors/team leaders work well with employees of different backgrounds.	2.524
Q56	Managers communicate the goals and priorities of the organization.	2.511
Q57	Managers review and evaluate the organization's progress toward meeting its goals and objectives.	3.136

Exploratory Factor Analysis

The role of factor analysis as either exploratory or confirmatory is often debated (Hair et al., 2010). Exploratory factor analysis is concerned with "searching among a set of variables or as a data reductions method" (Hair et al., 2010, pg. 94). Researchers using this analysis accept what the data yields as results of the extraction (Hair et al., 2010). An exploratory factor analysis using varimax rotation within SPSS version 22.0 was used to determine whether the observed variables loaded together with adequate correlation while meeting reliability and validity criteria. The exploratory factor analysis was computed after variables with no factor loadings, low factor loadings (below .4), and cross factor loadings with less than a .2 separation were removed. The exploratory factor analysis was recomputed after each removal of a latent variable. The exploratory factor analysis was also recomputed, after each iteration of the CFA, requiring a variable to be removed due to cross loading of covariances between factors. The exploratory factor analysis yielded three factors, after numerous iterations and several iterations caused by covariances with the CFA. These factors were labeled job satisfaction, performance equity, and work-life.

Sampling Adequacy and Reliability

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) of .877 is good or meritorious (Field, 2009; Kaiser, 1974). Bartlett's Test of sphericity was significant ($p < .001$) indicating the exploratory factor analysis was appropriate (Field, 2009) and the commonalities of each variable were sufficiently high (all above .500 and most above .600). The exploratory factor analysis retained three factors explaining 71.250%

cumulative variance. The Cronbach's alphas for the extracted factors were all above .70 as shown in Table 14.

Table 14

Rotated Factor Loadings

Item	Job satisfaction	Performance equity	Work-life
Q69	.823		
Q63	.806		
Q71	.806		
Q64	.772		
Q67	.737		
Q44	.736		
Q46	.711		
Q68	.699		
Q24		.832	
Q25		.802	
Q23		.796	
Q77			.966
Q78			.966
Eigenvalues	4.952	2.429	1.882
% of variance	38.089	18.683	14.478
Cronbach α	.917	.838	.933

Note. Factor loadings below .36 were suppressed. The cumulative variance accounted for was 71.25%.

Confirmatory Factor Analysis

An exploratory factor analysis was conducted to determine which latent variables could be reduced into factors. A CFA was conducted to establish a reliable and valid model. AMOS version 22.0 was used to determine convergent validity, discriminant validity, and model fit. The rotated component matrix was loaded into AMOS version 22.0. The modification indices suggested remedies resolved all of the covariances, variances, and regression weight concerns after the error terms covaried. This was accomplished by covaring the largest modification indices existing on the same factor. Error terms were covaried as shown in Figure 4, CFA Model from AMOS version 22.0.

Figure 4, CFA Model, represents the final model after removing the discrepancies in the model by resolving the largest discrepancy and running a revised model. Once the modification indices were resolved, the model was tested for model fit per the residuals matrix. AMOS version 22.0 computed model fit tables using CFA which were compared to metrics found in Hair et al. (2010). The CFA model presented in Figure 4 had model fit as indicated by all metrics being within the acceptable ranges presented in Table 18. The standardized loadings of each latent factor and standardized covariances were used to calculate the CR to determine reliability, AVE to determine convergent validity, along with MSV, ASV, and AVE to determine discriminant validity.

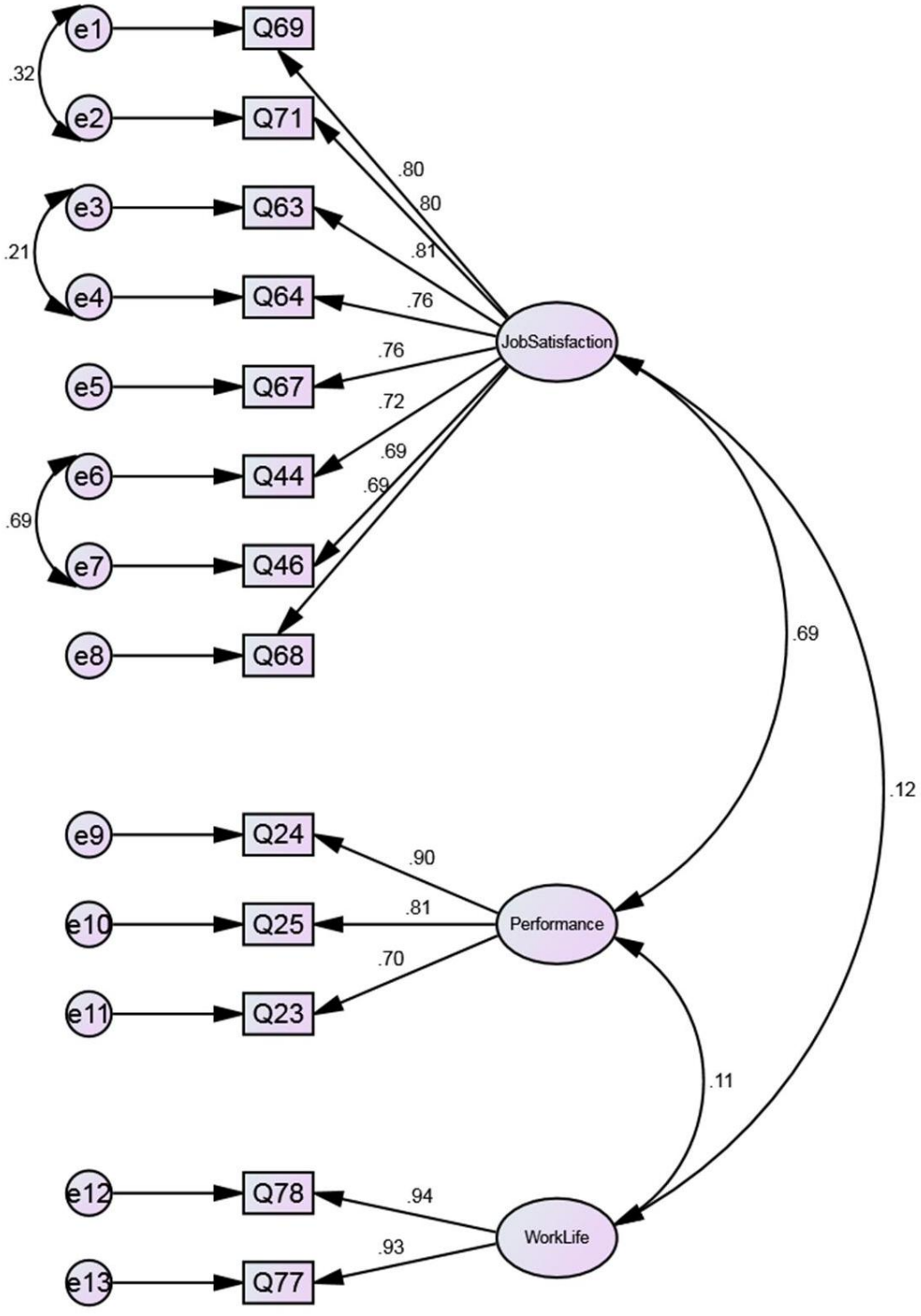


Figure 4. Confirmatory factor analysis from AMOS version 22.0.

Model Reliability and Validity

The correlations table, Table 15, and standardized regression weights table, Table 16, from AMOS version 22.0 were used to determine whether the model established reliability, convergent validity, and discriminant validity, presented in Table 17. The model is considered reliable if the composite reliability is above .7 for each factor (Hair, Black, Babin, & Anderson, 2010). Convergent validity is achieved if the average variance extracted (AVE) is greater than .5 for each factor (Hair et al., 2010). Discriminant validity is achieved if the maximum shared variance (MSV) is less than the AVE, the average shared variance (ASV) is less than the AVE, and the square root of the AVE is greater than inter-construct correlations (Hair et al., 2010). Reliability and validity were calculated using a Microsoft Excel spreadsheet called Stats Tool Package (Gaskin, 2012). Table 16 presents the results of the reliability and validity calculations. The model in Figure 4 has the required reliability, convergent validity, and discriminant validity.

Convergent validity issues indicate that variables within a parent factor does not properly correlate with each other (Hair et al., 2010). Discriminant validity indicates that the variables correlate too much with variables that are not part of the parent factor (Hair et al., 2010). Convergent validity was measured by AVE.

Table 15

Correlations Table From Confirmatory Factor Analysis

			Estimate
JobSatisfaction	< - - >	PerformanceEquity	.687
JobSatisfaction	< - - >	WorkLife	.123
PerformanceEquity	< - - >	WorkLife	.109
e6	< - - >	e7	.688
e1	< - - >	e2	.322
e3	< - - >	e4	.214

Note. Correlations table generated by AMOS version 22.0.

Table 16

Standardized Regression Weights Table From Confirmatory Factor Analysis

			Estimate
Q69	< - - -	JobSatisfaction	.796
Q71	< - - -	JobSatisfaction	.801
Q63	< - - -	JobSatisfaction	.810
Q64	< - - -	JobSatisfaction	.761
Q67	< - - -	JobSatisfaction	.761
Q44	< - - -	JobSatisfaction	.717
Q46	< - - -	JobSatisfaction	.692
Q68	< - - -	JobSatisfaction	.686
Q24	< - - -	PerformanceEquity	.903
Q25	< - - -	PerformanceEquity	.806
Q23	< - - -	PerformanceEquity	.696
Q78	< - - -	WorkLife	.939
Q77	< - - -	WorkLife	.932

Note. Standardized regression weights table generated by AMOS version 22.0.

Table 17

Reliability and Validity Matrix

	CR	AVE	MSV	ASV	Performance equity	Job satisfaction	Work-life
Performance equity	.846	.650	.472	.242	.806		
Job satisfaction	.913	.569	.472	.244	.687	.754	
Work-life	.933	.875	.015	.014	.109	.123	.936

Note. Stats Tool Package (Gaskin, 2012) was used to calculate reliability and validity. http://statwiki.kolobkreations.com

Model Fit

The model fit matrices were within the accepted values. The CMIN/DF was slightly out of the good range of less than 3.0; however, it was closer to 3.0 than 5.0. Incremental fit indexes are acceptable at .90; however, the trend is for the incremental indexes to exceed .95 (Hu & Bentler, 1999). The incremental indexes (CFI, GFI, NFI, and TLI) were all above .98, well above .95. The parsimony index AGI is well above the .80 standard (Hu & Bentler, 1999) at .98. RMSEA is well below .05 and RMR is well below .09. The PCLOSE is not significant at $p = 1.00$. Therefore, the model appears to have goodness of fit, see Table 18.

Table 18

Model Fit Metrics

Measure	Observed value	Threshold
Chi-square/df (CMIN/DF)	3.641	< 3 good; < 5 permissible
Comparative fit index (CFI)	.994	>.95 great; >.90 traditional; > .80 permissible
Goodness-of-fit index (GFI)	.988	>.95
Adjusted GFI (AGFI)	.982	>.80
Root mean square residual (RMR)	.024	<.09
Root mean square error of approximation (RMSEA)	.031	<.5 good; .05-.10 moderate; >.10 bad
p of close fit (PCLOSE)	1.000	*p* >.05 or nonsignificant
Normed fit index (NFI)	.991	>.95
Tucker-Lewis Index (TLI)	.992	>.95

Note. Thresholds for goodness-of-fit measurement were derived from Hair et al. (2010) and Hu and Bentler (1999).

The variables extracted and confirmed were job satisfaction and performance equity. The job satisfaction variable consisted of questions 44, 46, 63, 64, 67, 68, 69, and 71 as shown in Table 19. The performance equity variable consisted of questions 23, 24, and 25 as shown in Table 20. The work-life variable consisted of questions 77 and 78 as shown in Table 21. The job satisfaction variable was expected and planned for in the original design. However, the performance equity variable was developed through the exploratory factor analysis and CFA. It is directly related to equity theory and was retained for this study. The work-life variable did not directly relate to equity theory and was not retained for this study.

Table 19

Job Satisfaction Variable Survey Questions

Question number	Question
Q44	Discussions with my supervisor/team leader about my performance are worthwhile.
Q46	My supervisor/team leader provides me with constructive suggestions to improve my job performance.
Q63	How satisfied are you with your involvement in decisions that affect your work?
Q64	How satisfied are you with the information you receive from management on what's going on in your organization?
Q67	How satisfied are you with your opportunity to get a better job in your organization?
Q68	How satisfied are you with the training you receive for your present job?
Q69	Considering everything, how satisfied are you with your job?
Q71	Considering everything, how satisfied are you with your organization?

Table 20

Performance Equity Variable Survey Questions

Question number	Question
Q23	In my work unit, steps are taken to deal with a poor performer who cannot or will not improve.
Q24	In my work unit, differences in performance are recognized in a meaningful way.
Q25	Awards in my work unit depend on how well employees perform their jobs.

Table 21

Work-Life Variable Survey Questions

Question number	Question
Q77	How satisfied are you with the following Work/Life programs in your agency Child Care Programs (for example, daycare, parenting classes, parenting support groups)?
Q78	How satisfied are you with the following Work/Life programs in your agency Elder Care Programs (for example, support groups, speakers)?

The inclusion of gender (Bright, 2010; Choi & Rainey, 2013; Stringer, Didham, & Theivananthampillai, 2011) and minority status (Bright, 2010; Bristow, Amyx, Castleberry, & Cochran, 2011; Choi & Rainey, 2013; Liu & Tang, 2011; Stringer, Didham, & Theivananthampillai, 2011) stemmed from peer-reviewed research. One-way ANOVA was used to justify inclusion of the covariates. There were statistically significant differences in gender means and pay banding ($F_{\text{Welch}}(1, 2407.008) = 44.461$, $p < .001$); generational cohorts ($F_{\text{Welch}}(1, 2498.477) = 4.230$, $p = .040$); generational times cohorts ($F(1, 2523) = 13.865$, $p < .001$); and job satisfaction ($F(1, 2523) = 4.579$, $p = .032$). There were statistically significant differences in minority status means and generational cohorts ($F_{\text{Welch}}(1, 1597.642) = 10.967$, $p = .001$); and generational times cohorts ($F(1, 2523) = 8.952$, $p = .003$). Based on peer-reviewed research and univariate analysis gender and minority status were included in the study.

During the statistical testing and exploratory factor analysis originally described in Chapter 3, a new variable emerged. This variable was labeled performance equity. The performance equity variable was constructed from three questions of the 2010 Federal Employee Viewpoint Survey. These questions asked if poor performance was adequately

dealt with in the work unit, were differences in performance recognized in a meaningful way, and did awards depend on job performance. The items composing the performance equity variable were concerned with actual performance as a means for determining awards and recognition which aligns with equity theory (Adams, 1963).

The exploratory factor analysis procedure removed a large amount of the data set in an effort to achieve a reliable and valid model. Data cleaning after completion of the exploratory factor analysis further limited the data set.

There were no adverse events encountered during this study. The study was conducted using secondary data which was collected by OPM during February and March of 2010. Since the study used secondary data and there was no interaction with human subjects beyond the data collection process performed by OPM, there was no anticipation or actual adverse events.

Results

The population for IRS frontline managers was estimated to be 6,900 in 2010 (TIGTA, 2010) and the remainder of the Department of the Treasury was estimated to have 1,196 frontline managers (Treasury Budget, 2010). The sample used for this study after data screening and cleaning was composed of 2,525 participants. The variable pay banding indicated the difference between IRS frontline managers (1,737 participants) and the remainder of the Department of the Treasury frontline managers (788 participants) used in this study. Table 22 displays the descriptive statistics and the frequencies of the key variables.

Statistical Assumptions

*H*1 and *H*2 were analyzed utilizing ANOVA and follow-on hierarchical regression. The assumptions for the ANOVA test are no outliers, normality, and homogeneity of variance. The assumptions for hierarchical multiple linear regression are independence of errors or residuals; a linear relationship between the predictor variables and the dependent variables; homoscedasticity of residuals or equal error variances; no multicollinearity; no significant outliers or influential points; and errors or residuals are normally distributed.

*H*3 was analyzed using mediation analysis. *H*4 was analyzed using moderation analysis. The assumptions for mediation analysis and moderation analysis are linearity, normality, homoscedasticity, independence of errors (Hayes, 2013). These assumptions are covered in the assumptions of *H*1 and *H*2. Based on the fact that *H*1 and *H*2 satisfied these assumptions, the testing of assumptions were not repeated.

Table 22

Key Variable Descriptive Statistics

Variable Category	Frequency	Percent	*M*	*SD*	Range
Gender	2,525	100.0	1.53	.499	1 – 2
Male	1,191	47.2			
Female	1,334	52.8			
Minority status	2,525	100.00	1.67	.469	1 – 2
Minority	824	32.6			
Nonminority	1,701	67.4			
Generational cohort	2,525	100.0	2.59	.493	2 – 3
Generation X	1,046	41.4			
Baby Boomer generation	1,479	58.6			
Generational times cohort	2,525	100.0	3.62	.777	2 – 5
Late Generation X	188	7.4			
Early Generation X	858	34.0			
Late Baby Boomer generation	1,202	47.6			
Early Baby Boomer generation	277	11.0			
Pay banding	2,525	100.0	1.31	.463	1 – 2
Pay banded	1,737	68.8			
Not pay banded	788	31.2			
Intent to leave	2,525	100.0	1.19	.394	1 – 2
No plans to leave	2,040	80.8			
Plans to leave	485	19.2			
Job satisfaction	2,525	100.0	.12	.836	-1.87 – 1.90
Performance equity	2,525	100.0	.12	.818	-1.95 – 1.94
Work-life balance	2,525	100.0	-.00	1.00	-.91 – 2.53

*H*5 was analyzed using logistic regression. The assumptions for logistic regression are independence of errors, linear relationship between the continuous independent variables and the logit transformation of the dependent variable, no multicollinearity, and no significant outliers or influential points (Field, 2009).

*H*1 ANOVA Assumptions

Normality assumption. Normality of distribution of error or residuals of the dependent variables among the groups was assessed using the Kolmogorov-Smirnov Test of Normality. The job satisfaction score and performance equity score were not normally distributed for the generational cohort groups, as assessed by the Kolmogorov-Smirnov test of normality ($p < .05$). "Large samples can be significant even when the scores are only slightly different from a normal distribution" (Field, 2009, p. 148). The Q-Q plots paired with histograms in Figure 5 were used to determine both groups were approximately normally distributed at the univariate level for generational cohorts.

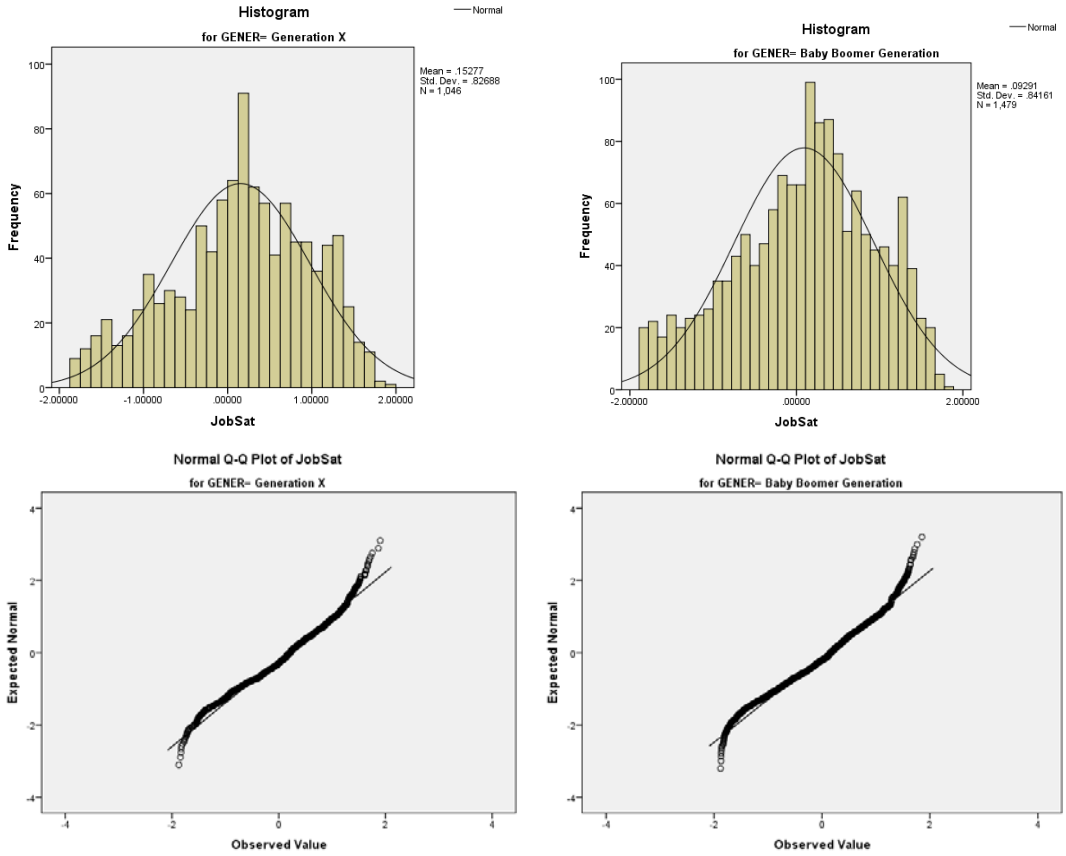


Figure 5. Histograms and Q-Q plots used to visually verify univariate normal distribution for job satisfaction in generational cohorts.

Assumption of no outliers. Outliers were assessed by creating a variable of standardized values (z-scores) based on the continuous variables, job satisfaction and performance equity. The outliers beyond $\pm$ 1.96 were deleted after the CFA model was determined to be valid and reliable to ensure that the assumption of no outliers was met. The box plots in Figure 6 show that the assumption was met.

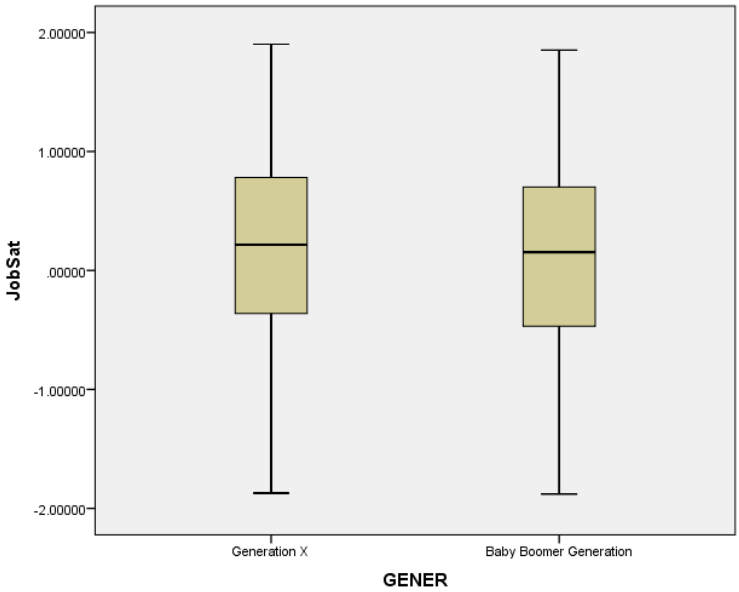


Figure 6. Box plots showing no outliers present for job satisfaction or performance equity in generational cohorts.

Homogeneity of error variances. The test for homogeneity of variances or Levene's test was used to determine whether homogeneity of variances existed. There was a homogeneity of variances (p = .502). The assumption of homogeneity of variances was met.

*H*1 Hierarchical Multiple Regression Assumptions for Job Satisfaction

There was independence of residuals, as assessed by a Durbin-Watson statistic of .777. There was an approximate linear relationship of all relationships. Homoscedasticity was accessed using a scatter plot of studentized residuals and unstandardized predicted value to determine whether the spread of residuals were constant. Multicollinearity assumption was met as none of the independent variables had any correlations greater than .7. The collinearity tolerance value was greater than .01 (the lowest was .990) and the variance inflation factor (VIF) was well below 10 (the highest was 1.029). Figure 6 indicates there were no outliers. The assumption of no outliers was met. There were no

leverage values greater than .2, (the highest value was .004). There were no influential values, as assessed by Cook's Distance, greater than 1 (the highest value was .004). Normality was visually assessed with the P-P plot and histogram in Figure 7. The assumption of normality was met.

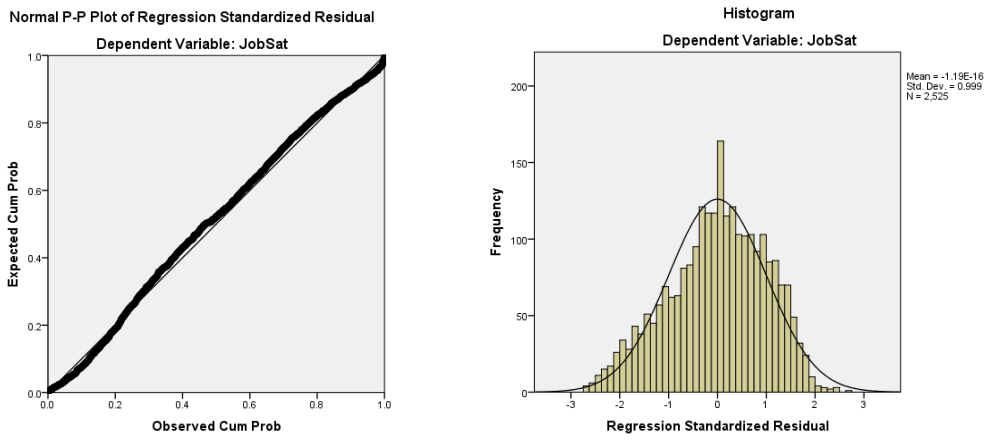


Figure 7. Normality assessed visually using P-P plot and histogram.

*H*2 ANOVA Assumptions

Normality assumption. Normality of distribution of error or residuals of the dependent variables among the groups was assessed using the Kolmogorov-Smirnov Test of Normality. The job satisfaction score and performance equity score were not normally distributed for the generational times cohort groups, as assessed by the Kolmogorov-Smirnov test of normality ($p < .05$). "Large samples can be significant even when the scores are only slightly different from a normal distribution" (Field, 2009, p. 148). The histograms paired with Q-Q plots in Figure 8 were used to determine that the four groups were approximately normally distributed at the univariate level for generational times cohorts. The assumption of normality was met.

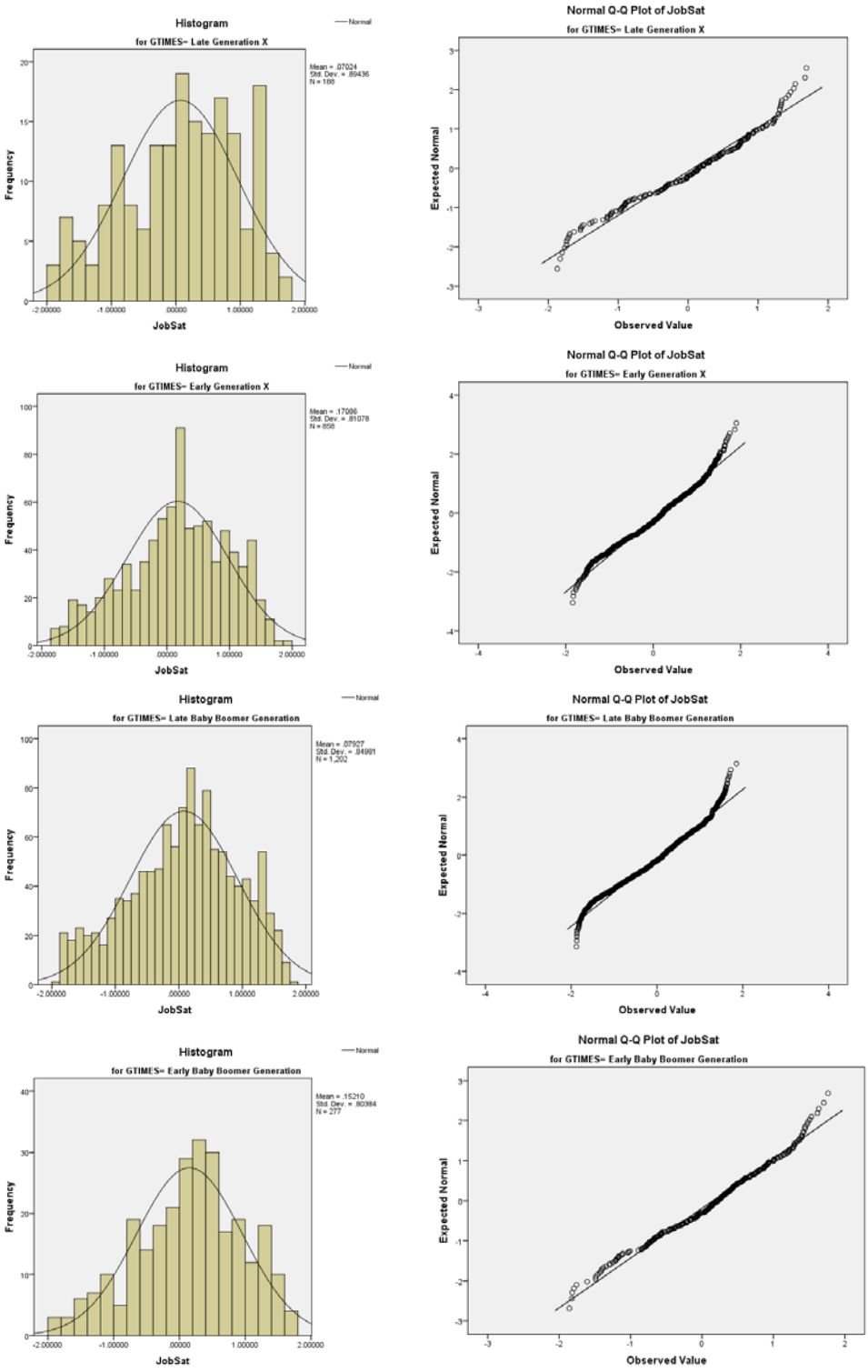


Figure 8. Q-Q Plot and histogram used to visually verify univariate normal distribution for job satisfaction in generational times cohorts.

Assumption of no outliers. Outliers were assessed by creating a variable of standardized values (z-scores) based on the continuous variables, job satisfaction and performance equity as described earlier. The outliers beyond $\pm$ 1.96 were deleted after the CFA model was determined to be valid and reliable to ensure that the assumption of no outliers was met. The box plots in Figure 9 show that the assumption was met.

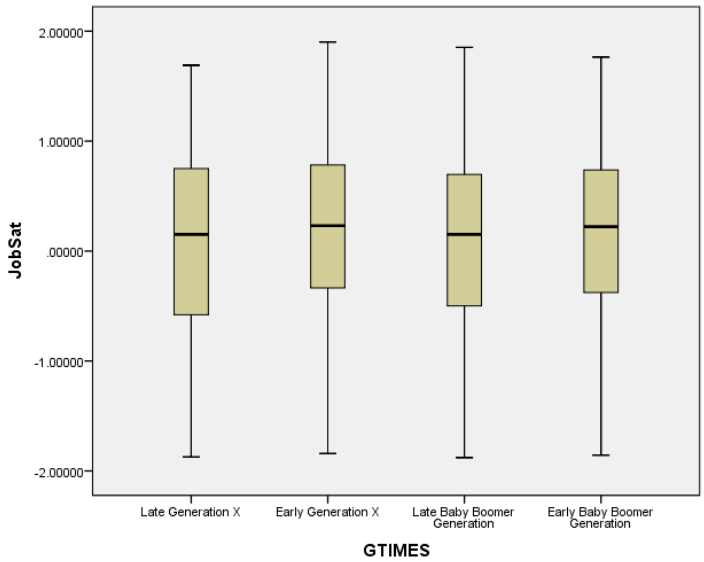


Figure 9. Box plots showing no outliers present for job satisfaction in generational times cohorts.

Homogeneity of error variances. The test for homogeneity of variances or Levene's test was used to determine whether homogeneity of variances existed. There was a homogeneity of variances (p = .076). The assumption of homogeneity of variances was met.

*H*2 Hierarchical Multiple Regression Assumptions for Job Satisfaction

There was independence of residuals, as assessed by a Durbin-Watson statistic of .779. There was an approximate linear relationship of all relationships. Homoscedasticity was accessed using a scatter plot of studentized residuals and unstandardized predicted

value to determine whether the spread of residuals were constant. Multicollinearity assumption was met as none of the independent variables had any correlations greater than .7. The collinearity tolerance value was greater than .01 (the lowest was .876) and the variance inflation factor (VIF) was well below 10 (the highest was 1.138). Figure 9 indicates there were no outliers. The assumption of no outliers was met. There were no leverage values greater than .2, (the highest value was .009). There were no influential values, as assessed by Cook's Distance, greater than 1 (the highest value was .005). Normality was visually assessed with the P-P plot and histogram in Figure 10. The assumption of normality was met.

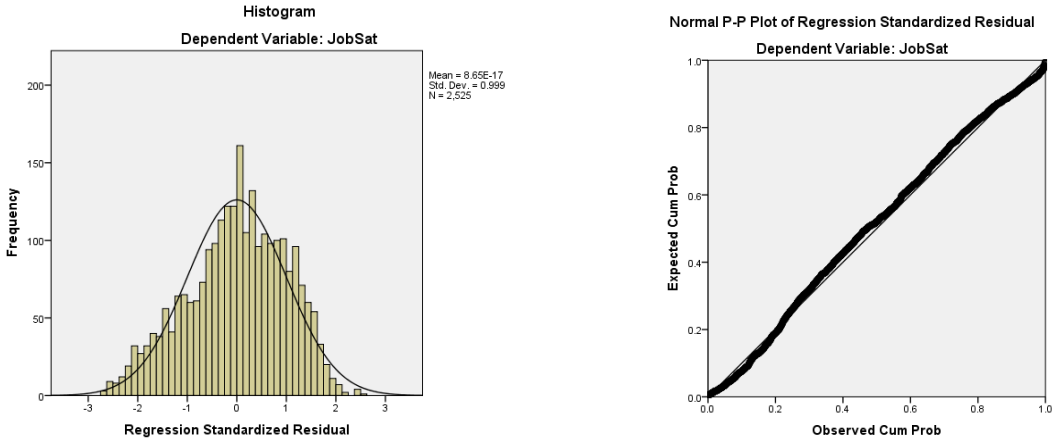


Figure 10. Normality assessed visually using P-P plot and histogram.

*H*3 Assumptions of Linear Multiple Regressions for Mediation Analysis

The assumption testing for *H*1 and *H*2 have satisfied the assumptions for mediation analysis. Since the dependent and independent variables are the same as *H*1 and *H*2, there is no need to repeat the assumption tests for *H*3. The assumptions for *H*3 have been met.

*H*4 Assumptions of Linear Multiple Regressions for Moderation Analysis

The assumption testing for *H*1 and *H*2 have satisfied the assumptions for mediation analysis. Since the dependent and independent variables are the same as *H*1 and *H*2, there is no need to repeat the assumption tests for *H*4. The assumptions for *H*4 have been met.

*H*5 Assumptions of Logistic Regression

Independence of errors. There was independence of residuals since the cases are independent. Cases did not measure the same people at difference points in time (Field, 2009). The assumption was met.

Linear relationship. For logistic regression to be valid, the continuous independent variables need to be linearly related to the logit of the dependent variable. If the test is statistically significant, the assumption would not be met and logistic regression results would not be valid. This was tested using the Box-Tidwell (1962) procedure. Interaction terms were created from the continuous independent variable and their natural log transformations. The interaction terms were tested in a logistic regression with the dependent variable. The interaction terms were nonsignificant. Job Satisfaction * natural log of Job Satisfaction resulted in $p = .362$, *n.s.* Therefore, original independent variables are linearly related to the logit of the dependent variable. The assumption is met.

No multicollinearity. Multicollinearity assumption was met since none of the independent variables had any correlations greater than .7. The collinearity tolerance

value was greater than .01 (the lowest was .966) and the variance inflation factor (VIF) was well below 10 (the highest was 1.035). The assumption was met.

No significant outliers or influential points. Figure 6 (generational cohorts) and Figure 9 (generational times cohorts) indicated there were no outliers. There were no leverage values greater than .2, (the highest value was .009). There were no influential values, as assessed by Cook's Distance, greater than 1 (the highest value was .022). The assumption of no outliers and no influential points was met.

Results of Data Analyses

The results of data analyses are presented in hypothesis order including any additional explorations resulting from the initial findings of data analyses. The results include the exact statistics.

*H*1 ANOVA

A one-way ANOVA was run to determine the effect of generational cohorts' perception of the dependent variable, job satisfaction. Participants were either in the Baby Boomer generation or Generation X. Preliminary assumption checking revealed that data were normally distributed, as assessed by Q-Q plots and histograms in Figure 5; there were no univariate or outliers, as assessed by box plots in Figure 6. There was homogeneity of variance-covariance matrices, as assessed by Levene's test of homogeneity of variance ($p = .502$). The differences between the generational cohorts and job satisfaction ($F(1,2523) = 3.145$, $p = .076$, *n.s.*, $\omega^2 = .001$) were statistically nonsignificant with Generation X ($M = .15$, $SD = .83$, $CI_{95\%}$ [.10, .20]) scoring higher than the Baby Boomer generation ($M = .09$, $SD = .84$, $CI_{95\%}$ [.05, .13]). Further, Cohen's

effect size value ($\omega^2 = .001$) suggested trivial practical significance. No post hoc tests were conducted since there were only 2 categories and post hoc analysis requires a minimum of three categories. There was a nonsignificant difference between means ($p < .05$) for job satisfaction; therefore, the null hypothesis regarding the job satisfaction variable was accepted and the alternative hypothesis was rejected. See Table 24, ANOVA table for *H*1.

*H*1 Hierarchical Multiple Regression for Job Satisfaction

A hierarchical multiple regression was run to determine whether the addition of minority status, gender and pay banding obtained from the 2010 Federal Employee Viewpoint Survey improved the prediction of job satisfaction over and above the generational cohort alone. The full model of generational cohort, minority status, gender, and pay banding (Model 4) was statistically significant, $R^2 = .035$, $F(1, 2520) = 10.192$, $p < .001$, adjusted $R^2 = .014$; $f^2 = .013$. Further, Cohen's effect size value ($f^2 = .013$) suggested trivial practical significance. The addition of gender (Model 3) led to a statistically significant increase in R^2 of .003, $F(1, 2521) = 2.688$, $p = .045$, adjusted $R^2 = .002$; $f^2 = .003$. The addition of pay banding status to the prediction of job satisfaction (Model 4) led to a statistically significant increase in R^2 of .013. Gender was statically significant ($p = .027$) in Model 3; however, when pay banding status was added to Model 4 gender became statistically nonsignificant ($p = .148$). The most important predictor of job satisfaction was pay banding, which explained 1.3% of the variance. See Table 25 for a summary of this hierarchical multiple regression.

*H*2 ANOVA

A one-way ANOVA was run to determine the effect of generational times cohorts' perception on the dependent variable, job satisfaction. Participants were either in the Early Baby Boomer generation, Late Baby Boomer generation, Early Generation X or Late Generation X. Preliminary assumption checking revealed that data were normally distributed, as assessed by Q-Q plots and histograms in Figure 8; there were no univariate outliers, as assessed by box plots in Figure 9. There was homogeneity of variance-covariance matrices, as assessed by Levene's test of homogeneity of variance (p = .076). Early Generation X (M =.17, SD = .81, $CI_{95\%}$ [.12, .23]) scored higher on job satisfaction than the Early Baby Boomer generation (M = .15, SD = .80, $CI_{95\%}$ [.06, .25]) followed by the Late Baby Boomer generation (M =.08, SD = .85, $CI_{95\%}$ [.031, .127]) and finally Late Generation X (M = .08, SD = .85, $CI_{95\%}$ [.03, .13]). One-way ANOVA showed that job satisfaction differences ($F(3, 2521) = 2.366$, p = .069, *n.s.*, ω^2 = .003) were nonsignificant between the generational times cohorts. Further, Cohen's effect size value (ω^2 = .003) suggested trivial practical significance. Post hoc testing was conducted using the Tukey HSD post hoc test since all possible combinations of group differences was being compared and there was no violation of homogeneity of variances. Tukey HSD post hoc analysis revealed all group differences were statistically nonsignificant ($p > .05$). Therefore, the null hypothesis was accepted and the alternative hypothesis was rejected. See Table 26, ANOVA table for *H*2.

*H*2 Hierarchical Multiple Regression for Job Satisfaction

A hierarchical multiple regression was run to determine whether the addition of minority status, gender, and pay banding obtained from the 2010 Federal Employee Viewpoint Survey improved the prediction of job satisfaction over and above the generational times cohort alone. The full model of generational cohort, minority status, gender, and pay banding status (Model 4) was statistically significant, $R^2 = .132$, $F(1, 2518) = 7.480$, $p < .001$, adjusted $R^2 = .015$; $f^2 = .013$. Further, Cohen's effect size value ($f^2 = .013$) suggested trivial practical significance. The addition of gender (Model 3) led to a statistically significant increase in R^2 of .005, $F(1, 2519) = 2.295$, $p = .043$, adjusted $R^2 = .003$; $f^2 = .003$. The addition of pay banding status to the prediction of job satisfaction (Model 4) led to a statistically significant increase in R^2 of .013. Gender was statically significant ($t(1,2519) = 2.086$, $p = .037$, $CI_{95\%}$ [.004, .136]) in Model 3; however, when pay banding status ($t(1,2518) = -5.767$, $p < .001$, $CI_{95\%}$ [-.28, -.14]) was added to Model 4, gender became statistically nonsignificant ($t(1,2518) = 1.325$, $p = .185$, $CI_{95\%}$ [-.02, .11]). The most important predictor of job satisfaction was pay banding, which explained 1.3% of the variance. See Table 27 for a summary of this hierarchical regression.

*H*3 Mediation Analysis

Three conditions needed to exist to determine whether mediation had occurred. The independent variable predicts the dependent variable. The independent variable predicts the mediator variable. The mediator variable predicts the dependent variable. The independent variables for the mediation analysis were generational cohorts and

generational times cohorts. The mediating variable was pay banding. The dependent variables were job satisfaction and performance equity. Therefore, four simultaneous mediation analyses were conducted.

IV predicts DV. A simple linear regression was calculated using generational cohorts as the independent variable and job satisfaction as the dependent variable. The independent variable and the dependent variable were not statistically significant, p = .076. A statistically nonsignificant simple linear regression equation was found ($F(1,2523) = 3.145$, $p = .076$, *n.s.* adjusted $R^2 = .001$; $f^2 = .001$) with an R^2 of .001. Further, Cohen's effect size value ($f^2 = .001$) suggested trivial practical significance.

A simple linear regression was calculated using generational times cohorts as the independent variable and job satisfaction as the dependent variable. The relationship between the independent variable and the dependent variable was not significant, p = .069. A statistically nonsignificant simple linear regression equation was found ($F(3,2521) = 2.366$, $p = .069$, *n.s.*, adjusted $R^2 = .003$; $f^2 = .003$) with an R^2 of .003. Further, Cohen's effect size value ($f^2 = .003$) suggested trivial practical significance.

IV predicts MV. A simple linear regression was calculated using generational cohorts as the independent variable and pay banding as the dependent variable. The relationship between the independent variable and the dependent variable was statistically significant, p = .006. A statistically significant simple linear regression equation was found ($F(1,2521) = 7.592$, $p = .006$, adjusted $R^2 = .003$; $f^2 = .003$) with an R^2 of .003. Further, Cohen's effect size value ($f^2 = .003$) suggested trivial practical significance.

A simple linear regression was calculated using generational times cohorts as the independent variable and pay banding as the dependent variable. The relationship between the independent variable and the dependent variable was statistically significant, $p < .001$. A significant simple linear regression equation found $F(2,2523) = 6.166$, $p < .001$, with an R^2 of .007.

MV predicts DV and reduces IV influence on DV. A simple linear regression was calculated using pay banding as the independent variable and job satisfaction as the dependent variable. The relationship between the independent variable and the dependent variable was statistically significant, $p < .001$. A significant simple linear regression equation was found ($F(1,2523) = 36.535$, $p < .001$), with an R^2 of .014.

Reduction of the influence of independent variable on dependent variable was not evaluated as the independent variable did not significantly predict the dependent variable for both generational cohorts and generational times cohorts. See Table 28 (generational cohorts) and Table 29 (generational times cohorts) for mediation analyses.

Mediation results. Mediation did not occur between the variables of this study. Figure 11 displays the two mediation analyses conducted with the variables of this study. Generational cohorts (IV) and generational times cohorts (IV) did not significantly predict job satisfaction (DV). Despite mediation not occurring, the analysis revealed that there is a statistically significant relationship between the generational cohorts, generational times cohorts, and job satisfaction variable with the pay banding variable.

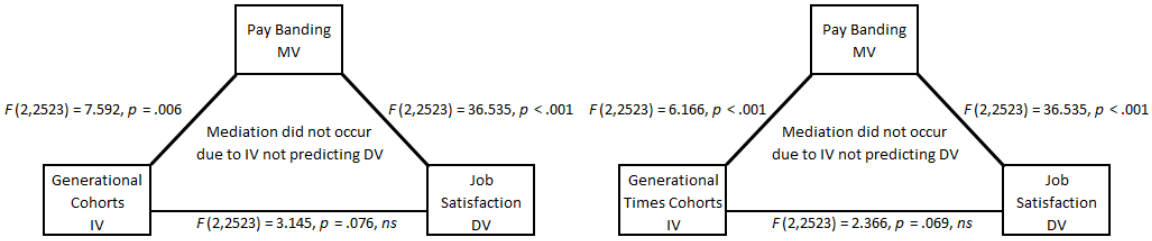


Figure 11. Mediation analysis.

*H*4 Moderation Analyses

Moderation analysis was conducted by creating two new Z-score variables (the predictor and the moderator). Then an interaction variable was created using the Z-score variables. This was followed by a hierarchical linear regression analysis with the independent variable and dependent variable entered in Model 1 and the interaction variable entered in Model 2 to determine whether the presumed moderator moderates the relationship between the independent variable and the dependent variable. A statistically nonsignificant result for Model 2 indicates moderation did not occur.

Moderation results. A hierarchical multiple regression was run to access the statistical significance of the interaction term, generational cohorts * pay banding. There was not a statistically significant moderator effect of pay banding, as evidenced by the addition of the interaction term explaining no additional percentage of the total variance (p = .477) indicating the MV (pay banding) moderated the relationship between the IV (generational cohorts) and DV (job satisfaction). See Table 31 for moderation analysis results.

A hierarchical multiple regression was run to access the statistical significance of the interaction term, generational times cohorts * pay banding. There was not a statistically significant moderator effect of pay banding, as evidenced by the addition of

the interaction term explaining no additional percentage of the total variance (p = .414) indicating the MV (pay banding) did not moderate the relationship between the IV (generational times cohorts) and DV (job satisfaction). See Table 32 for moderation analysis results.

*H*5 Logistic Regression Predicting Intent to Leave

A logistic regression was performed to ascertain the effects of generation cohort membership, gender, minority status, pay banding, job satisfaction, and performance equity on the likelihood that participants will leave the agency. The logistic regression model was statistically significant, $X^2(7) = 179.790$, $p < .001$. The model explained 11.0% (Nagelkerke R^2) of the variance in intent to leave the agency and correctly classified 81.1% of cases. Sensitivity was 4.5%, specificity was 99.3%, positive predictive value was 61.1%, and negative predictive value was 81.4%. Of the seven predictor variables only four were statistically significant: job satisfaction, performance equity, pay banding, and generational cohort membership (as shown in Table 31). A reduction in job satisfaction was associated with an increase in the likelihood of leaving the agency by a factor of 2.11 and a reduction in performance equity was associated with an increase in the likelihood of leaving the agency by a factor of 1.23. Pay banded frontline managers had 1.36 times higher odds of leaving the agency than frontline managers who were not pay banded. Baby Boomer generation participants were 1.476 times more likely to leave the agency than Generation X.

A logistic regression was performed to ascertain the effects of generation times cohort membership, gender, minority status, pay banding, job satisfaction, and

performance equity on the likelihood that participants would leave the agency. The logistic regression model was statistically significant, $X^2(9) = 188.683$, $p < .001$. The model explained 11.5% (Nagelkerke R^2) of the variance in intent to leave the agency and correctly classified 80.5% of cases. Sensitivity was 3.7%, specificity was 98.8%, positive predictive value was 58.1%, and negative predictive value was 81.2%. Of the nine predictor variables only four were statistically significant: job satisfaction, performance equity, pay banding, and the early Baby Boomer cohort (as shown in Table 32) A reduction in job satisfaction was associated with an increase in the likelihood of leaving the agency by a factor of 2.12 and a reduction in performance equity was associated with an increase in the likelihood of leaving the agency by a factor of 1.23. Pay banded frontline managers had 1.34 times higher odds of leaving the agency than frontline managers who were not pay banded. Early Baby Boomer cohort participants were 2.00 times more likely to leave the agency than the other generational times cohorts.

$H_1$5A was accepted when using generational times cohorts. The early Baby Boomer generational times cohort was 2.00 times ($p = .004$) more likely to leave the agency than the other three generational times cohorts. The alternate hypothesis was accepted at the generational cohort level because the Baby Boomer generation was 1.49 times ($p < .001$) more likely to leave the agency than Generation X.

$H_1$5B was rejected because minority status was a nonsignificant predictor of intent to leave the agency.

$H_1$5C was rejected because gender was a nonsignificant predictor of intent to leave the agency.

$H_1$5D was accepted because pay banded frontline managers were 1.36 times (p = .007) more likely to leave the agency when generational cohorts were used in the analysis, while pay banded frontline managers were 1.34 times (p = .007) more likely to leave the agency when generational times cohorts were used in the analysis.

$H_1$5E was accepted because job satisfaction was reduced among pay banded managers. The reduction in job satisfaction was associated with pay banded frontline managers being 2.11 times ($p < .001$) more likely to leave the agency.

$H_1$5F was accepted because performance equity was reduced among pay banded managers. The reduction in performance equity was associated with pay banded frontline managers being 1.23 times ($p < .001$) more likely to leave the agency.

$H_1$5G was rejected because work-life balance was a nonsignificant predictor of intent to leave the agency.

Confidence Intervals

A confidence interval is an estimate of the population or means based on the sample (Rudestam & Newton, 2007). "A confidence interval with a + / - 5% margin of error would be referred to as a 95% confidence interval" (Rudestam & Newton, 2007, p. 152). The confidence interval for this study is the 95% confidence interval ($CI_{95\%}$ [lower bound, upper bound]). Confidence intervals provide a statistical estimate of the population based on the sample mean and the standard deviation. When confidence intervals do not overlap and do not contain zero, then it can be concluded that there is a statistically significant difference between group means. However, if overlapping confidence intervals may or may not indicate differences.

***H*1.** *H*1 compared group means of the Baby Boomer generation and Generation X perceptions of job satisfaction. Generation X (M = .15, SD = .84, $CI_{95\%}$ [.10, .20]) scored higher than the Baby Boomer generation (M = .093, SD = .842, $CI_{95\%}$ [.05, .14]). While the confidence intervals did not contain zero, they did overlap, therefore, it cannot be concluded that the estimates are significantly different, which matched the ANOVA (p = .076).

***H*2.** *H*2 compared group means of the Early Baby Boomer cohort, Late Baby Boomer cohort, Early Generation X cohort, and Late Generation X cohort perceptions of job satisfaction. Early Generation X cohort (M = .17, SD = .81, $CI_{95\%}$ [.12, .23]) scored higher than the Early Baby Boomer cohort (M = .15, SD = .80, $CI_{95\%}$ [.06, .25]) followed by the Late Baby Boomer cohort (M = .08, SD = .85, $CI_{95\%}$ [.03, .13]) and finally by the Late Generation X cohort (M = .07, SD = .89, $CI_{95\%}$ [-.06, .20]). Late Generation X cohort included zero and the remaining confidence intervals overlapped, therefore, it cannot be concluded the estimates are significantly different, which matched the ANOVA (p = .069).

***H*3.** *H*3 was a mediation analysis testing if the IV predicted the DV, if IV predicted MV, and if MV predicted DV. First, Generational cohorts prediction of job satisfaction was nonsignificant (p = .076). The $CI_{95\%}$ [-.01, .13] contained zero and, therefore, the confidence interval is not statistically significant. Second, Generational cohorts prediction of pay banding was statistically significant (p = .006). The $CI_{95\%}$ [-.09, -.02] did not contain zero and, therefore, the confidence interval would be statistically significant. Finally, pay banding's prediction of job satisfaction was statistically

significant ($p < .001$). The $CI_{95\%}$ [-.26, -.15] did not contain zero and, therefore, the confidence interval would be statistically significant**.**

Utilizing generational times cohorts had similar results with one unexpected anomaly. First, Generational times cohorts prediction of job satisfaction was nonsignificant ($p = .069$). The confidence intervals for Early Baby Boomer cohort ($CI_{95\%}$ [-.04, .18]) and Late Generation X cohort $CI_{95\%}$ ([-.14, .12]) contained zero and therefore the confidence interval was not statistically significant. The anomaly is in the confidence interval of the Early Generation X cohort ($CI_{95\%}$ [.02, .12]) as it does not contain zero, it would be statistically significant. This significance agrees with the coefficients significance ($p = .014$). Second, generational times cohorts prediction of pay banding was statistically significant ($p < .001$). The confidence intervals for Early Baby Boomer cohort ($CI_{95\%}$ [-.125, -.004]), Early Generation X cohort ($CI_{95\%}$ [-.09, -.01]), and Late Generation X cohort ($CI_{95\%}$ [-.125, -.004]), did not contain zero and therefore the confidence interval would be statistically significant. Finally, pay banding significantly predicted job satisfaction ($p < .001$). The $CI_{95\%}$ [-.26, -.15] did not contain zero and, therefore, the confidence interval would be statistically significant.

Effect Sizes

Effect sizes describe the practical significance of the statistical analysis much in the same manner as null hypothesis statistical testing describes the statistical significance. Cohen (1992) defined the effect sizes as small, medium, and large. Effect sizes smaller than a small effect are often termed trivial. Statistical significance does not necessarily

correlate with practical significance. Table 23, Effect Size Parameters, presents the values associated with each effect size.

Table 23

Effect Size Parameters

Analysis	Effect	Small	Medium	Large
ANOVA	ω^2	.01	.06	.14
Hierarchical Multiple Regression	f^2	.14	.39	.59
Mediation	R	.10	.30	.50
Moderation	f^2	.02	.15	.35
Logistic Regression	OR	1.50	2.50	4.30

Note . Effect size for Cohen's f^2, OR, and R (Cohen, 1992) and ω^2 (Field, 2013) were used to determine trivial, small, medium, and large effects.

H1. $H_1$1, alternative hypothesis, was rejected and $H_0$1, null hypothesis, was accepted. ANOVA indicated job satisfaction was nonsignificant (p = .076). ANOVA revealed ω^2 effect sizes for job satisfaction (ω^2 = .001), which suggested practical significance was trivial. Hierarchical multiple regression found that gender, minority status, generational cohorts, and pay banding were statistically significant (p = .001) predicting job satisfaction and performance equity (p = .001). Cohen's effect size value (f^2 = .013) for job satisfaction suggested trivial practical significance.

H2. $H_1$2, alternative hypothesis, was rejected and $H_0$2, null hypothesis, accepted. ANOVA indicated job satisfaction was nonsignificant (p = .069). ANOVA revealed ω^2 effect sizes for job satisfaction (ω^2 = .003) and equity performance (ω^2 = .002), which also suggested practical significance was trivial. Hierarchical multiple regression found

that gender, minority status, generational times cohorts, pay banding status, and intent to leave were statistically significant ($p = .001$) predicting job satisfaction and performance equity ($p = .001$). Cohen's effect size value ($f^2 = .013$) for job satisfaction suggested trivial practical significance.

***H*3.** $H_0$3, null hypothesis was accepted because the three conditions of mediation were not met. Linear regression indicated that the generational cohorts (IV) was statistically nonsignificant ($p = .076$) in predicting job satisfaction (DV), generational cohorts (IV) was statistically significant ($p = .006$) in predicting pay banding (MV), and pay banding (MV) was statistically significant ($p < .001$) in predicting job satisfaction (DV). The effect size value ($R = .035$, $R = .055$, and $R = .119$ respectfully) suggested trivial practical significance between the IV and DV; IV and MV; however, low practical significance was suggested between the MV and DV.

Linear regression indicated that the generational times cohorts (IV) was statistically nonsignificant ($p = .069$) in predicting job satisfaction (DV), generational times cohorts (IV) was statistically significant ($p < .001$) in predicting pay banding (MV), and pay banding (MV) was statistically significant ($p < .001$) in predicting job satisfaction (DV). The effect size value ($R = .053$, $R = .085$, and $R = .119$ respectfully) suggested trivial practical significance between the IV and DV; IV and MV; however, low practical significance was suggested between the MV and DV.

***H*4.** $H_0$4, null hypothesis, was accepted. The moderation analysis was not statistically significant ($p = .477$) for pay banding moderating the relationship between generational cohorts and job satisfaction. Cohen's effect size value ($f^2 = .015$) suggested

trivial practical significance. The moderation analysis was not statistically significant (p = .414) for pay banding moderating the relationship between generational times cohorts and job satisfaction. Cohen's effect size value (f^2 = .017) suggested trivial practical significance.

***H*5.** $H_0$5, null hypothesis, was partially rejected. Two logistic regressions were conducted to predict the odds of frontline managers leaving the agency. The difference was the first logistic regression used generational cohorts, while the second logistic regression used generational times cohorts. The remaining variables were constant in both regressions. The remaining variables were job satisfaction, performance equity, pay banding, gender, and minority status.

Increasing job satisfaction decreased intent to leave the agency by a factor of 2.11, which is low to moderate effect size. Increasing performance equity decreased intent to leave by a factor of 1.23, which is marginal to low effect size. The odds of leaving the agency are increased by a factor of 1.34 or 1.36 (based on generational cohorts or generational times cohorts being in the regression respectively) if the participant is pay banded, which is margin to low effect size. Baby Boomer generation had 1.48 times higher odds of leaving the agency than Generation X, which is low effect size. Early Baby Boomer generation had 1.98 higher odds of leaving the agency than all other generational times cohorts, which is low to moderate effect size. Late Baby boomer generation had 1.23 higher odds of leaving the agency than all other generational times cohorts, which is margin to low effect size. The odds of leaving the agency are increased nonsignificantly if the participant was male rather than female. The odds of leaving the

agency are increased nonsignificantly if the participant was a minority rather than a non-minority.

Post hoc analyses only occurred when generational times cohorts were used in an ANOVA as this was the only variable with more than two categories. Post hoc tests were accomplished using Tukey HSD. Although post hoc tests are not usually conducted for nonsignificant ANOVA results, post hoc testing was conducted to explore the differences of generational times cohorts. *H*2 Tukey HSD found no statistically significant differences between the four generational times cohorts tested and the 95% confidence interval all included zero indicating there would be no statistically significant finding in the population.

Despite pay banding not mediating the relationship between generational perceptions and job satisfaction, hierarchical multiple regressions in *H*1 and *H*2 indicated that gender may play a significant role in a relationship with job satisfaction. Based on previous hierarchical linear regression analyses for *H*1 and *H*2, it was hypothesized that pay banding would mediate the relationship between gender and job satisfaction. A simple linear regression was calculated using gender as the independent variable and job satisfaction as the dependent variable. A statistically significant simple linear regression equation was found ($F(2,2523) = 4.579$, $p = .032$), with an R^2 of .002 indicating the IV predicted the DV. A simple linear regression was calculated using gender as the independent variable and pay banding as the dependent variable. A statistically significant simple linear regression equation was found ($F(2,2523) = 45.003$, $p < .001$), with an R^2 of .018 indicating the IV predicted the MV. A simple linear regression was calculated

using pay banding as the independent variable and job satisfaction as the dependent variable. A statistically significant simple linear regression equation was found ($F(2,2523) = 36.535$, $p < .001$), with an R^2 of .014 indicating the MV predicted the DV. The mediation analysis using gender as the independent variable is displayed in Figure 12.

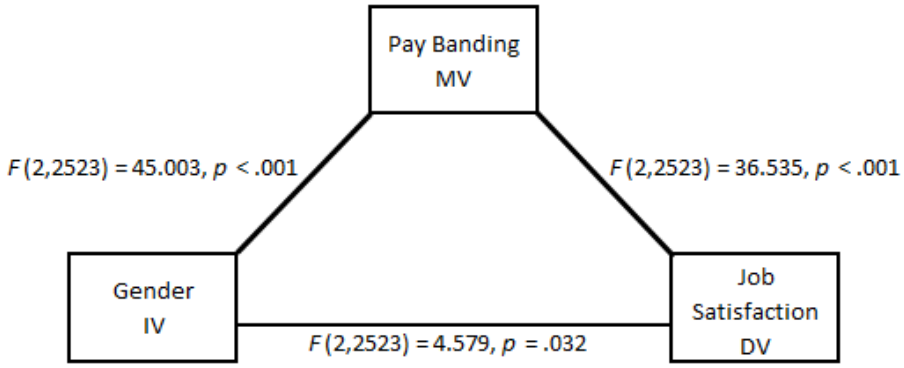


Figure 12. Mediation analysis using gender (IV), pay banding (MV), and job satisfaction (DV).

Table 24

ANOVA Table for Generational Cohort Perceptions of Job Satisfaction

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	2.196	1	2.196	3.145	.076
Within Groups	1761.361	2523	.698		
Total	1763.556	2524			

Note. Results from ANOVA for *H* 1.

Table 25

Summary of Hierarchical Multiple Regression for Variables Predicting Job Satisfaction

Variable	B	β	*t*	R^2	ΔR^2	ΔF
Model 1				.001	.001	3.145
Generation X	.060	.035	1.773			
Model 2				.001	.000	.014
Generation X	.060	.035	1.777			
Minority Status	-.004	-.002	-.118			
Model 3				.003	.002	4.901*
Generation X	.063	.037	1.854			
Minority Status	.003	.002	.097			
Gender	.074	.044	2.214*			
Model 4				.016	.013	32.604***
Generation X	.051	.030	1.512			
Minority Status	.006	.003	.161			
Gender	.049	.029	1.447			
Pay Banding	-.206	-.114	-5.710***			

Note. N = 2525; *p < .05; **p < .01; ***p < .001; Baby Boomer generation was the reference group. Results from hierarchical regression for *H* 1.

Table 26

ANOVA Table for Generational Times Cohort Perceptions of Job Satisfaction

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	4.951	3	1.650	2.366	.069
Within Groups	1758.606	2521	.698		
Total	1763.556	2524			

Results from ANOVA for *H*2.

Table 27

Summary of Hierarchical Multiple Regression for Variables Predicting Job Satisfaction

Variable	B	β	*t*	R^2	ΔR^2	ΔF
Model 1				.003	.003	2.366
Early Baby Boomer	.073	.027	1.308			
Early Generation X	.092	.052	2.454*			
Late Generation X	-.009	-.003	-.138			
Model 2				.003	.000	.016
Early Baby Boomer	.073	.027	1.302			
Early Generation X	.092	.052	2.456*			
Late Generation X	-.009	-.003	-.138			
Minority Status	-.005	-.003	-.127			
Model 3				.005	.002	4.353
Early Baby Boomer	.062	.023	1.113			
Early Generation X	.092	.052	2.462*			
Late Generation X	-.007	-.002	-.106			
Minority Status	.003	.001	.070			
Gender	.070	.042	2.086*			
Model 4				.018	.015	33.262
Early Baby Boomer	.053	.020	.951			
Early Generation X	.082	.046	2.206*			
Late Generation X	-.037	-.012	-.569			
Minority Status	.004	.002	.118			
Gender	.045	.027	1.325			
Pay Banding	-.208	-.115	-5.767***			

Note. N = 2525; *p < .05; **p < .01; ***p < .001; Late Baby Boomer cohort was reference group. Results from hierarchical regression for *H*2.

Table 28

Mediation Analysis of Pay banding Mediating Generational Cohorts and Job Satisfaction

Variable	B	β	*t*	R^2	ΔR^2	ΔF
IV predicts DV				.035	.001	3.145
Constant	.093		4.276***			
Generation X	.060	.035	1.773			
IV predicts MV				.055	.003	7.592**
Constant	.709		58.935***			
Generation X	-.052	.019	-2.755**			
MV predict DV				.119	.014	36.535***
Constant	.266		8.994***			
Pay Banded	-.215	-.119	-6.044***			

Note. N = 2525; *p < .05; **p < .01; ***p < .001; IV = Baby Boomer Generation (reference group or constant), DV = Job Satisfaction; MV = Pay Banded (reference group). Results from $H3$ for generational cohorts.

Table 29

Mediation Analysis of Pay banding Mediating Generational Times Cohorts and Job Satisfaction

Variable	B	β	*t*	R^2	ΔR^2	ΔF
IV predicts DV				.003	.003	2.366
Constant	.079		3.291***			
Early Baby Boomer	.073	.027	1.308			
Early Generation X	.092	.052	2.454*			
Late Generation X	-.009	-.003	-.138			
IV predicts MV				.007	.007	6.166***
Constant	.721		54.126***			
Early Baby Boomer	-.064	-.043	-2.087*			
Early Generation X	-.046	-.048	-2.251*			
Late Generation X	-.142	-.080	-3.905***			
MV predict DV				.014	.014	36.535***
Constant	.266		8.994***			
Pay Banded	-.215	-.119	-6.044***			

Note. N = 2525; *p < .05; **p < .01; ***p < .001; IV = Late Baby Boomer generation (reference group or constant), DV = Job Satisfaction; MV = Pay Banded. Results from H3 for generational times cohorts.

Table 30

Mediation Analysis of Pay banding Mediating Gender and Job Satisfaction

Variable	B	β	*t*	R^2	ΔR^2	ΔF
IV predicts DV				.002	.002	4.579*
Constant	.084		3.677***			
Gender	.071	.033	2.140*			
IV predicts MV				.018	.018	45.003***
Constant	.746		59.294***			
Gender	-.123	.018	-6.708***			
MV predict DV				.014	.014	36.535***
Constant	.266		8.994***			
Pay Banded	-.215	-.119	-6.044***			
MV predict DV and Reduced IV's Influence on DV				.015	.015	19.206***
Constant	.240		6.827***			
Gender	.046	.027	1.365			
Pay Banded	-.209	-.116	-5.812***			

Note. N = 2525; *$p < .05$; **$p < .01$; ***$p < .001$; IV = Gender, DV = Job Satisfaction, MV = Pay Banding. Results from addition mediation analysis.

Table 31

Moderation Analysis of Pay banding Moderating Generational Cohorts and Job Satisfaction

Variable	B	β	*t*	R^2	ΔR^2	*F*	ΔF
Model 1				.015	.015	19.336***	19.336*
Constant	.244		7.327***				
Generation X	.049	.029	1.457				
Pay Banding	-.213	-.118	-5.957***				
Model 2				.015	.000	13.057***	.506
Constant	.245		7.353***				
Generation X	.049	.029	1.468				
Pay Banding	-.214	-.119	-5.982***				
Generational Cohort * Pay Banding	.012	.014	.712				

Note. N = 2525; *$p < .05$; **$p < .01$; ***$p < .001$; Baby Boomer generation was the reference group. Results of moderation analysis using generational cohorts in *H* 4.

Table 32

Moderation Analysis of Pay banding Moderating Generational Times Cohorts and Job Satisfaction

Variable	B	β	*t*	R^2	ΔR^2	*F*	ΔF
Model 1				.017	.017	10.782***	10.782***
Constant	.234		6.648***				
Pay Banding	-.214	-.119	-5.995***				
Early baby Boomer	.059	.022	1.067				
Early Generation X	.082	.046	2.200*				
Late Generation X	.039	-.012	-.603				
Model 2				.017	.000	8.758***	.667
Constant	.235		6.674***				
Pay Banding	-.215	-.119	-6.017***				
Early Baby Boomer	.057	.021	1.029				
Early Generation X	.081	.046	2.194*				
Late Generation X	-.034	-.011	-.511				
Generational Times Cohort* Pay Banding	.013	.016	.817				

Note. N = 2525; *p < .05; **p < .01; ***p < .001; Late Baby Boomer cohort was the reference group. Results from moderation analysis of generational times cohorts in $H4$.

Table 33

Logistic Regression Predicting Likelihood of Intent to Leave Based on Generational Cohorts, Minority Status, Gender, Pay banding, and Job Satisfaction

							95% CI for Odds Ratio	
	B	SE	Wald	*df*	*p*	Odds Ratio	Lower	Upper
Baby Boomer (1)	.363	.110	10.950	1	.001	1.437	1.159	1.782
Minority (1)	.080	.112	.508	1	.476	1.083	.870	1.349
Gender (1)	.043	.107	.164	1	.686	1.044	.847	1.287
Pay Banding (1)	-.310	.114	7.400	1	.007	.733	.586	.917
Job Satisfaction	-.765	.064	144.742	1	.000	.465	.411	.527
Constant	·1.523	.135	127.735	1	.000	.218		

Note : Baby Boomer is compared to Generation X. Minrority is compared to non-minority. Gender is for males compared to females. Pay banding is compared to not pay banded. Results using generational cohorts in *H* 5.

Table 34

Logistic Regression Predicting Likelihood of Intent to Leave Based on Generational Times Cohorts, Minority Status, Gender, Pay banding, and Job Satisfaction

							95% CI for Odds Ratio	
	B	SE	Wald	*df*	*p*	Odds Ratio	Lower	Upper
Early Baby Boomer (1)	-.640	.242	7.004	1	.008	.527	.328	.847
Late Baby Boomer (1)	-.175	.209	.697	1	.404	.840	.557	1.266
Early Generation X (1)	.118	.218	.293	1	.588	1.126	.734	1.727
Minority (1)	.093	.112	.684	1	.408	1.097	.881	1.368
Gender (1)	.018	.107	.029	1	.866	1.018	.825	1.256
Pay Banding (1)	-.300	.115	6.871	1	.009	.741	.592	.927
Job Satisfaction	-.772	.064	145.773	1	.000	.462	.408	.524
Constant	-.732	.454	2.605	1	.107	.481		

Note : Early Baby Boomer, Late baby Boomer, and Early Generation X are compared to Late Generation X. Minority is compared to non-minority. Gender is for males compared to females. Pay banding is compared to not pay banded.

Summary

*H*1 showed generational cohorts to be statistically nonsignificant ($p = .076$) as evidenced by an ANOVA comparing the means of the Baby Boomer generation (M=.09, SD = .84) to Generation X (M=.15, SD = .83) using the independent variable, generational cohorts, and the dependent variable, job satisfaction. The nature of ANOVA is to detect if a statistically significant difference exists. Therefore, the two generations appear to be similar. The null hypothesis was accepted as there was no statistically significant group mean difference in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

A hierarchical multiple regression was run to determine whether the addition of minority status, gender and pay banding improved the prediction of job satisfaction over and above the generational cohorts alone. Model 3 ($p = .045$) and Model 4 ($p < .001$) were statistically significant when gender was added to Model 3 and pay banding was added to Model 4.

*H*2 showed generational times cohorts to be statistically nonsignificant ($p = .069$) as evidenced by an ANOVA comparing the means of the Early Baby Boomer cohort (M=.15, SD = .80), Late Baby Boomer cohort (M=.08, SD = .85), Early Generation X cohort (M=.17, SD = .81), and Late Generation X cohort (M=.07, SD = .89) using the independent variable, generational times cohorts, and the dependent variable, job satisfaction. The nature of ANOVA is to detect if a statistically significant difference exists. Therefore, the four generational times cohorts appear to be similar. The null

hypothesis was accepted as there was no statistically significant group mean difference in generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) employed by the Department of the Treasury as measured by the 2010 Federal Employee Viewpoint Survey.

A hierarchical multiple regression was run to determine whether the addition of minority status, gender and pay banding improved the prediction of job satisfaction over and above the generational times cohorts alone. Model 3 ($p = .037$) and Model 4 ($p < .001$) were statistically significant when gender was added to Model 3 and pay banding was added to Model 4.

Baron and Kenny (1986) established a three-step mediation analysis. Both generational cohorts ($p = .076$) and generational times cohorts ($p = .069$) failed to meet the first step of the independent variable predicting the dependent variable. The null hypothesis was accepted as pay-for-performance, specifically pay banding (MV), did not mediate the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational time cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

However, gender met the conditions of the mediation analysis. Gender (IV) significantly ($p = .032$) predicted job satisfaction (DV). Gender (IV) significantly ($p < .001$) predicted pay banding (MV). Pay banding (MV) significantly ($p < .001$) predicted job satisfaction (DV) and reduced gender (IV) to statistically nonsignificant prediction ($p = .172$) of job satisfaction (DV).

Pay banding did not moderate the relationship based on the moderation analysis described by Baron and Kenny (Baron & Kenny, 1986). The statistically nonsignificant ($p = .447$) interaction of IV*MV, or generational cohorts * pay banding, on job satisfaction indicated moderation did not occur. Similarly, the statistically significant ($p = .414$) interaction of IV*MV, or generational times cohorts * pay banding, on job satisfaction indicated moderation did not occur. Therefore, the null hypothesis was accepted as pay-for-performance, specifically pay banding, did not moderate the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational time cohorts (IV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

An important part of the pay-for-performance implementation in the IRS was to retain the managerial workforce (TIGTA, 2010). The null hypothesis was partially accepted as no statistically significant relationship existed between minority status, gender, and work-life balance in the prediction of intent to leave the agency among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey. While the alternative hypothesis was partially accepted as a negative relationship existed between generational perceptions, pay banding, job satisfaction, and performance equity in the prediction of intent to leave the agency increasing the intent to leave the agency among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey. Gender, minority status, and work-life balance were statistically nonsignificant in predicting the intent to leave the agency. However, pay banding had a negative effect on intent to leave the agency.

Conclusion

The effect of pay banding is clearly negative. Pay banding proved statistically significant each time it was introduced to statistical testing during this study. Generational cohorts and Generational times cohorts appeared to be more similar than different based on this study.

*H*1 and *H*2 indicated, whether the variable is generational cohorts or generational times cohorts, there are no statistical or practical mean differences among frontline managers of the Department of the Treasury in regards to job satisfaction. A look at the generational times cohorts showed a statistically significant difference ($p = .001$) between Late Baby Boomer cohort and Late Generation X cohort with no statistical differences between the other generational times cohorts. Generational perception results were mixed (Twenge, 2010) and nonsignificant (Kowske, Rasch, & Wiley, 2010). This was not a surprise and aligned with peer-reviewed literature (Meriac, Woehr, & Banister, 2010).

Pay banding, on the other hand, was statistically significant on each encounter. Hierarchical multiple regression in *H*1 found pay banding was the most important variable in the model for predicting job satisfaction, which was the same result shown in *H*2. *H*1 and *H*2 provided enough information about pay banding and gender to support a hypothesis that pay banding would mediate the relationship between gender and job satisfaction. *H*3 and *H*4 accepted the null hypothesis, pay-for-performance, specifically pay banding (MV), did not mediate nor moderate the relationship between generational perceptions regarding job satisfaction (DV) between generational cohorts (IV) or generational time cohorts (IV) among frontline managers employed by the IRS as

measured by the 2010 Federal Employee Viewpoint Survey. Mediation of the relationship between gender and job satisfaction was tested. The null hypothesis and alternative hypothesis were:

Null hypothesis: Pay-for-performance, specifically pay banding (MV), does not mediate the relationship between gender (IV) and job satisfaction (DV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

Alternative hypothesis: Pay-for-performance, specifically pay banding (MV), does mediate the relationship between gender (IV) and job satisfaction (DV) among frontline managers employed by the IRS as measured by the 2010 Federal Employee Viewpoint Survey.

Testing of this unexpected development resulted in accepting the alternative hypothesis and rejecting the null hypothesis. This may not have been recognized in stepwise regression as gender would have most likely been removed from the model. Using hierarchical multiple regression as a follow-on test in the first two research questions added understanding to generational perceptions and pay banding. Pay banding did not mediate nor moderate the relationship between generational perceptions, both generational cohorts and generational times cohorts, and job satisfaction. The last research question solidified the negative effect of pay banding on the intent to leave the agency. Pay banded frontline managers were 1.34 times more likely to leave the IRS than their counterparts in the remainder of the Department of the Treasury who had not experienced pay banding.

This chapter presented evidence from data collected by the 2010 Federal Employee Viewpoint Survey on generational perceptions of job satisfaction and the effect of pay banding on the relationship between generational perceptions and job satisfaction. The data did not show a statistically significant difference in group mean for either generational cohorts or generational times cohorts in regard to job satisfaction. Pay banding did not mediate generational perceptions and job satisfaction and pay banding did not moderate the relationship. Logistic regression indicated generational cohorts, pay banding, job satisfaction, and performance equity were statistically significant predictors of intent to leave the agency.

In Chapter 5, I will discuss interpretation of the findings in relation to extending the knowledge base of the discipline in comparison with the information presented in peer-reviewed articles. The interpretation of findings will also be viewed through the lens of the theoretical framework. Limitations of this study regarding validity, reliability, and generalizations will be addressed. Recommendations for future research based on this study and the related peer-reviewed literature will be provided along with the implications for social change.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Pay banding was implemented by the IRS to recruit, retain, and motivate highly qualified leaders (TIGTA, 2010). The IRS employed human resource contractors on two occasions, which provided contradictory findings regarding the impact of pay banding on managerial recruitment, retention, and motivation. The hypothesis was that pay banding would have a negative impact on managerial recruitment, retention, and motivation.

The purpose of this study was to explore the relationship between generational perceptions and job satisfaction, along with determining the effect of pay-for-performance systems, specifically pay banding, on job satisfaction and retention among frontline managers of the IRS compared to the frontline managers of the remainder of the Department of the Treasury. This study used five research questions to explore the effects of generational perceptions and pay banding on job satisfaction, culminating with the impact of pay banding on retention. It was hypothesized that pay banding had a negative relationship with generational perceptions of job satisfaction. This negative relationship was further hypothesized to increase the intent to leave the agency more often among pay banded frontline managers than among frontline managers who are not compensated under a pay-for-performance system.

The population of this study was frontline managers of the Department of the Treasury. I used secondary data from the 2010 Federal Employee Viewpoint Survey to answer five research questions. Quantitative analysis was used to determine the answers to the research questions and the acceptance or rejection of the null hypothesis. Follow-

on analyses were employed to draw the largest benefit of the research regarding generational perceptions, pay banding, job satisfaction, and finally intent to leave the agency.

*H*1: This hypothesis was answered using ANOVA and follow-on hierarchical multiple regression, along with generational cohorts, minority status, and gender, to determine the effect of pay banding on job satisfaction. The ANOVA compared the two generational cohorts. The hierarchical multiple regression was used to explore the effect and impact of the variables focusing on pay banding.

*H*2: Similar to *H*1, this hypothesis was answered using ANOVA and follow-on hierarchical multiple regression, along with generational times cohorts, minority status, and gender, to determine the effect of pay banding on job satisfaction. The ANOVA compared the four generational times cohorts. The hierarchical multiple regression was used to explore the effect and impact of the variables focusing on pay banding.

*H*3: Mediation analysis (Baron & Kenny, 1986) was employed to determine whetherwhether three conditions exist to determine that mediation has occurred. First, the independent variable predicts the dependent variable. Second, the independent variable predicts the mediator variable. Third, the mediator variable predicts the dependent variable and reduces the influence of the independent variable on the dependent variable. Mediation analysis was performed to determine the effect of pay banding on the relationship.

*H*4: Moderation analysis was conducted to determine the effect of pay banding on the relationship.

*H*5: Logistic regression was used to determine the effects of the study variables on intent to leave the agency by frontline managers. Inclusion of generational perceptions, minority status, gender, job satisfaction, performance equity, and work-life balance along with pay banding provided a multidimensional view of the variables impacting intent to leave the agency.

The results of the quantitative analyses were both expected and surprising. Generational perceptions of job satisfaction at both the generational cohorts ($p = .076$) and generational times ($p = .069$) cohorts were nonsignificant ($p > .05$) when the means were compared in the analyses for the first two research questions. Follow-on hierarchical multiple regression using generational perceptions, minority status, gender, and pay banding was used for the first two research questions (generational cohorts and generational times cohorts, respectively). These hierarchical multiple regressions revealed that pay banding had a well-defined negative relationship with job satisfaction ($p < .001$) when introduced in Model 4, and gender was statistically significant ($p = .027$ and $p = .037$, respectively, from coefficients table) in Model 3 until pay banding was introduced in Model 4. After pay banding was introduced, gender became nonsignificant ($p = .148$ and $p = .185$, respectively, from coefficients table). That led to a hypothesis that pay banding mediated the relationship between gender and job satisfaction.

The third and fourth hypotheses addressed whether or not pay banding was a mediator or moderator in the relationship between generational perceptions and job satisfaction. Mediation analysis found that pay banding did not mediate the relationship between generational perceptions and job satisfaction, primarily due to generational

perceptions not predicting job satisfaction. However, as hypothesized during the analysis of the first two research questions, pay banding did mediate the relationship between gender and job satisfaction. Moderation analysis determined that pay banding did not moderate the relationship between generational perceptions and pay banding.

The fifth research questions explored the effect of the variables in the study on intent to leave the agency. In both logistic regressions (building on generational cohorts or generational times cohorts), pay banding ($p = .007$ and $p = .010$, respectively), job satisfaction ($p < .001$ and $p < .001$, respectively), performance equity ($p = .001$ and $p = .001$, respectively), generational cohort perceptions ($p < .001$), and Early Baby Boomer generational times cohort ($p = .004$) were statistically significant in predicting intent to leave the agency.

Interpretations of the Results

The results of this study are interpreted in three areas of effect. The effects of generational perceptions, effects of pay banding, and effects of these and other variables on job satisfaction and intent to leave the agency provided the results of this study. The results of interest for this study are generational perceptions, pay banding, and intent to leave the agency.

Generational Perceptions

The ANOVA in $H1$ indicated that there was a statistically nonsignificant ($p = .076$) difference between the Baby Boomer generation and Generation X in perceptions of job satisfaction. The definition of the probability value ($p \leq .05$) is that there is a 95% chance of being true or a 5% chance of not being true. The results are nonsignificant at

the *a priori* established *p*-value but have a 92% chance of being true or statistically different. The ANOVA in *H*2 found that the generational times cohorts' perceptions of job satisfaction were nonsignificant ($p = .069$). However, the mediation analysis found that generational cohorts' ($p = .006$) and generational times cohorts' ($p < .001$) perceptions of pay banding were statistically significant. Logistic regression in *H*5 indicated that generational cohorts were statistically significant ($p < .001$). The Early Baby Boomer cohort was significantly different from the Early Generation X ($p < .001$) and Late Baby Boomer cohorts ($p = .044$) regarding intent to leave the agency. The Late Baby Boomer cohort was also significantly different from the Early Generation X cohort ($p = .030$) regarding intent to leave the agency. The Late Generation X cohort was nonsignificant in relation to the other generational times cohorts regarding intent to leave the agency.

Generational cohorts and generational times cohorts had different perceptions of pay banding and significantly predicted intent to leave the agency. These generational differences have a 99% chance of being found true in additional studies. Generational times cohorts can be used to specify which segments of larger generational cohorts are significantly different, allowing for a more precise understanding of workforce perceptions.

Pay banding indicated a significant difference between the generational cohorts, with Generation X favoring pay banding more than the Baby Boomer generation. However, generational times cohorts showed that the significant difference was only

between the Late Baby Boomer cohort and the Late Generation X cohort, with the Late Generation X cohort favoring pay banding more than the Late Baby Boomer cohort.

This study showed the older generation, or Baby Boomer generation, was more likely to leave the agency than the younger generation, or Generation X. However, when looking at generational times cohorts, the details show that the propensity to leave the agency was highest among the Early Baby Boomer cohort, followed by the Late Baby Boomer cohort and then the Early Generation X cohort, which were statistically significant. The Late Generation X cohort was nonsignificant when compare to the other three cohorts.

Generational cohorts and generational times cohorts provided the same basic conclusions. However, generational times cohorts provided more specificity as to where the significant difference actually could be found. Despite significant differences in generational perceptions, there were also similarities. Similarities were evident in generational times cohort since there were four categories as opposed to the dichotomous nature of the generational cohorts.

Pay banding

Pay banding proved to be a very important variable in the study. Pay banding was statistically significant and significantly negative in each analysis. Pay banding was found to reduce job satisfaction in *H*1 and *H*2. While pay banding did not mediate the relationship between generational perceptions and job satisfaction, it was found to mediate the relationship between gender and job satisfaction. In mediation, pay banding removed the significance of gender's effect on job satisfaction. Pay banding did not

moderate the relationship between generational perceptions of job satisfaction. The odds of leaving the agency are increased by a factor of 1.34 or 1.36 (based on generational cohorts or generational times cohorts being in the regression respectively) if the participant was pay banded, which provided a marginal to low effect size. The negative effects of pay banding were reduced job satisfaction and increased likelihood of frontline managers leaving the agency. These effects are important since they are contradictory to the purpose of the implementation of pay banding.

Retention or Intent to Leave the Agency

Retention of non-retirement eligible frontline managers is vital to succession planning in light of the Baby Boomer generation retiring. Logistic regression showed employees in the older generation and older generational times cohorts are more likely to leave the agency. The order of leaving is from oldest to youngest. The youngest studied group, Late Generation X, was the only group that was not statistically significant in predicting intent to leave the agency. Reducing job satisfaction and performance equity increased the likelihood of leaving the agency. Pay banding was shown to reduce job satisfaction. The other variables in the study did not significantly predict the intent to leave the agency.

Impact of Pay banding, Job Satisfaction, and Performance Equity on Policy

Pay banding was implemented in the IRS to recruit, retain, and motivate highly skilled leaders (TIGTA, 2007). Generational perceptions of job satisfaction do not appear to hinder these initiatives. However, pay banding significantly hinders retention and motivation since it diminishes job satisfaction and in doing so reduces retention and

reduces motivation. Pay banding negatively impacts retention. Reduction of performance equity also reduces retention.

Theoretical Context of Findings

The results of this study were viewed through the framework of two theories. The theoretical frameworks were Mannheim's theory of generations and Adams's equity theory. The results of this study were in alignment with the two theories.

Mannheim's Theory of Generations

Mannheim's original 1923 essay was entitled *The Problem of Generations*. Mannheim's theory of generations postulated that individual's are influenced by their socio-historical environment (Mannheim, 1952). Mannheim (1952) noted that within a generation there were other factors such as culture, history, political events, and other localized events that would influence generations; however, differences may occur within a given generation. Mannheim (1952) acknowledged that every generation may not develop a distinct or original consciousness. Mannheim (1952) stressed through his theoretical text that the events encountered or the culture encountered played a significant role in generational differences and similarities. The population for this study was frontline managers within the Department of the Treasury. The population for this study has a common government work environment, a managerial culture of the Department of the Treasury, and potentially common experiences as managers. The common experiences and managerial culture may have contributed to the generational similarities between generational cohorts and job satisfaction. However, this was contrasted by the statistically significant generational differences concerning intent to leave the agency.

Generational times cohorts were effective in determining which segments of the larger generational units were significantly different in regards to intent to leave the agency. The findings of similarities and significant differences within generational times cohorts and even between the generational units support Mannheim's propositions discussed earlier. Broad topics such as job satisfaction indicated generational similarities, while more specific topics such, as intent to leave the agency, displayed generational differences.

Adams's Equity Theory

Adams's equity theory was important to this study since it was the foundation for exploring perceptions of equity among the frontline managers. The propositions of equity theory are: (a) *Person* continually evaluates the relationship with others based on the equity exchange ratio compared to *Other*s' perceived equity exchange ratio; (b) if the equity exchange ratio is considered comparably unequal to *Other*s, then inequity exists; (c) the degree of perceived inequity correlates to the degree of stress felt by *Person*; and (d) the degree of effort exerted by *Person* to restore equity is proportional to the level of stress, or distress, felt by *Person* (Adams, 1963; Huseman et al., 1987; Msoroka, 2010). The statistically significant differences found in this study relating to pay banding embodied the propositions of equity theory. Pay banded frontline managers were statistically different from frontline managers who were not compensated under pay banding. Statistically significant differences were found for job satisfaction, performance equity, and intent to leave the agency. Through the analysis conducted in this study it is evident that pay banded frontline managers evaluate their equity exchange ratio as not

being equitable with frontline managers who are not pay banded as indicated by differences in job satisfaction and performance equity. Pay banded frontline managers are more likely to leave the agency than frontline managers than are not pay banded by a factor of 1.34 to 1.36 depending on whether generational cohorts or generational times cohorts are used in the analysis. Intention to leave is one on the stress relievers described by Adams's equity theory (1963) and opposes the intended result of retaining highly skilled leaders (TIGTA, 2007) as an initiative of the policy change. Other remedies presented by Adams's equity theory (1963) were not analyzed as part of this study. Adams's equity theory was clearly demonstrated through this study.

Limitations

This study, as with any study, faced limitations. The sample size of this study was uncertain until data collection began after IRB approval to conduct the research. The secondary data of the 2010 Federal Employee Viewpoint Survey provided an ample sample of 2,525 respondents after data screening and cleaning.

To ensure the study was reliable and valid, CFA was used to determine convergent validity, discriminant validity, and model fit. Model reliability was achieved as indicated by the composite reliability being greater than .7 (Hair et al., 2010). Model convergent validity was determined by AVE being greater than .5 for each factor (Hair et al., 2010). Discriminant validity was determined by the MSV being less than the AVE and the square root of the AVE being greater than the inter-construct correlations (Hair et al., 2010); see Table 17 earlier for reliability and validity matrix. Reliability and validity was calculated using a Microsoft Excel spreadsheet called Stats Tool Package (Gaskin,

2012). The model also presented good fit as shown earlier in Table 18, Model Fit Metrics. The cost of achieving a reliable and valid model was that 65 of the 78 latent variables were removed from the study as explained in Chapter 4.

Data for this study originated from a probability sample (OPM, 2010a). The type of sample combined with the reliability and validity provides the basis for generalization to the larger population. However, the sample was limited to frontline managers of the Department of the Treasury. The uniqueness of the studied population may restrict any generalization to the frontline managers within the Department of the Treasury.

Recommendations for Future Research

Based on the analysis conducted in this study, there are several recommendations concerning future research. These recommendations are not ordered in any manner. The first recommendation would be to perform a mixed methods analysis to determine whether pay banding is negatively impacting recruiting of managers from bargaining unit employees. A survey specifically addressing recruiting, motivation, and retention of managers should be developed. A survey specifically designed to evaluate pay banding may provide more practically significant results. The qualitative part of the mixed methods approach would provide education about the agency's pay-for-performance system known as pay banding and would provide a basis for determining the way managers think about pay-for-performance.

The second recommendation would be to conduct research studies similar to this study using subsequent Federal Employee Viewpoint Surveys to analyze how pay banding is perceived over time. This would provide policymakers with additional

analysis to make a decision about the continued use, discontinued use, or expansion of pay banding. If policymakers determine that pay banding should continue to be used, then from an equity standpoint they should consider expanding it to all federal employees.

A third recommendation is to analyze the latent variables of the Federal Employee Viewpoint Survey separately instead of using a data reduction method such as exploratory factor analysis. Examining each variable separately may provide insight into generational differences and provide more definitive evidence relating to the value of generational times cohorts. The population should be expanded to all participants of the Federal Employee Viewpoint Survey and compare generational differences of bargaining unit employees with managerial participants to determine whether a managerial culture changes generational perceptions. Questions which were not included in this study, such as Q42, my supervisor supports my need to balance work and other life issues, or Q15, my performance appraisal is a fair reflection of my performance, could also be evaluated. Q42 would directly impact pay-for-performance from an equity standpoint. Q15 would address differences in generational perception of work-life balance in regards to time off, modified work schedules, or working part-time.

Implications for Social Change

Policymakers endeavored to improve the IRS by allowing the Department of the Treasury to create one or more pay-for-performance systems for IRS employees (TIGTA, 2010). Pay-for-performance, or pay banding, was implemented in order to recruit, retain, and motivate highly skilled leaders (TIGTA, 2007). TIGTA noted in 2007 and 2010 that

pay-for-performance may be a negative factor having an effect contradictory to intended results (TIGTA, 2010; TIGTA, 2007). TIGTA (2010, Highlights) stated the HR contractors noted frontline manager concerns and "observed that a large number of managers had stepped down from management positions." The IRS provides many services and products important to the operation and tax administration of the nation. This study seeks to inform policymakers on the ramifications of pay banding among frontline managers of the Department of the Treasury. The empirical data from this study should allow for informed policy changes to better enable the IRS to attract, keep, and motivate the frontline managerial workforce.

Positive social change implications begin at the individual level. This study clearly shows that pay banded frontline managers are less satisfied than frontline managers who are not pay banded. Providing this information to policymakers should have a positive social change on the compensation system of the IRS frontline managers. Increasing job satisfaction among frontline managers should decrease the intent to leave the agency by pay banded frontline managers. This will increase retention and save budgetary costs for hiring and training at an organizational level.

The impact of understanding the effects of pay banding goes beyond the frontline managers or the organization. Pay banding impacts the public. Pay banding has a negative influence on organizational performance based on not retaining and not motivating highly skilled leaders. Ultimately, this negative influence on organizational performance may be manifested in less efficient or less effective services being provided to the public.

This study is important since it has provided deeper insight into the perceptions of pay banding by IRS frontline managers. By employing the highly-skilled frontline managers, efficiencies may improve and the services provided to the public may be more efficient and effective.

Adams's equity theory sets forth a theoretical framework concerning perceptions of equitable rewards based on input. Perceptions of an equitable exchange ratio result in a stable work environment. Providing a stable and equitable exchange ratio contribute to individual employees feeling valued and demonstrating their worth. This in turn reduces stress and ultimately encourages retention. Perceptions of equitable exchange ratio by employees improve motivation and performance, which improves organizational performance. Ultimately, the citizenry as a whole benefits from federal sector organizations retaining a highly skilled and motivated workforce. Equitable exchange ratios are shown to positively improve those who are within the organization and indirectly improve those who utilize the services of the organization. Generally, federal agencies touch large segments of society.

Adams's equity theory, combined with the results of this study, clearly indicates that pay banding had a negative effect on the studied participants of the 2010 Federal Employee Viewpoint Survey. Results found pay banding negatively impacted motivation and retention. Providing a compensation system that is perceived as equitable would promote positive social change.

Implications for the Practice of Positive Social Change

The results of this study support the propositions of equity theory. The results clearly show that the effects of pay banding have negative implications regarding job satisfaction and performance equity, which relates to diminished motivation. Pay banding presented a negative impact on retention. Based on the reasoning to implement pay banding, which was to recruit, retain, and motivate highly skilled leaders (TIGTA, 2007); it is evident based on this study that the policy change did not support the desired outcome.

It is vital that federal public sector agencies provide the most efficient and effective high quality services to the citizens impacted by the agencies. In these budgetary constrained times, "the costs of designing and operating a selection procedure as large as that in the U.S. federal government are certainly consequential, and turnover thus represents lost investment" (Bertelli, 2007, p. 236). The loss of invested funds through training and recruitment for vacated positions is impacted by retention. To deliver the efficiency and effectiveness in the federal public sector agencies administering services to the American public, policymakers should reevaluate the effects and effectiveness of pay-for-performance systems currently employed by the federal government and specifically, the IRS.

Conclusion

This study was designed to explore the effect of pay banding generational perceptions of job satisfaction based on the data from the 2010 Federal Employee Viewpoint Survey. The population extracted from the survey was frontline managers of

the Department of the Treasury. The hypothesis (*a priori*) that pay banding would have a negative effect on job satisfaction and the intent to leave the agency was determined to be true based on the analysis conducted.

The policymakers' decision to institute pay-for-performance as a compensation system using pay banding for the IRS was well intentioned and was to accomplish several initiatives. Pay banding was to enhance recruiting, motivation, and retention of highly skilled leaders (TIGTA, 2007). The results of this study provide empirical evidence that the intended initiatives of pay banding implementation have not come to fruition.

The federal government has attempted pay-for-performance on several occasions. "However, these efforts were discontinued after numerous studies found that the pay scheme did not improve motivation or increase employee satisfaction" (Bertelli, 2007, p. 237). Only to be revisited as if the previous studies did not exist. This study shows the disparity perceived by employees subjected to pay-for-performance as opposed to those who are compensated under the general schedule leads to decreased motivation and increased intention to leave the agency.

This research was undertaken in hopes of igniting additional scholarly research concerning federal public sector pay-for-performance and revitalize efforts to improve federal public sector performance. Based on the perceptions of frontline managers in this study, pay-for-performance does not serve the intended purposes. There would seem to be three options before policymakers concerning pay-for-performance, or pay banding. First, alter the existing pay banding system to achieve the intended outcomes. Second, abandon pay banding and return to the general schedule of pay. Third, determine whether

the policy's stated intentions are correct, or was the policy instituted as a budgetary measure. If pay banding is found to satisfy the intended initiatives, then pay-for-performance should be expanded to all federal employees to lessen the effect of perceptions of inequity. Positive social change should ultimately drive the decision. Providing equity in the workplace moves toward a perceived equity exchange ratio, which is equitable when compared to others, will result in positive social change for individuals in the federal workforce, the organizations through improved efficiency and effectiveness, and society through the improved services received from federal agencies.

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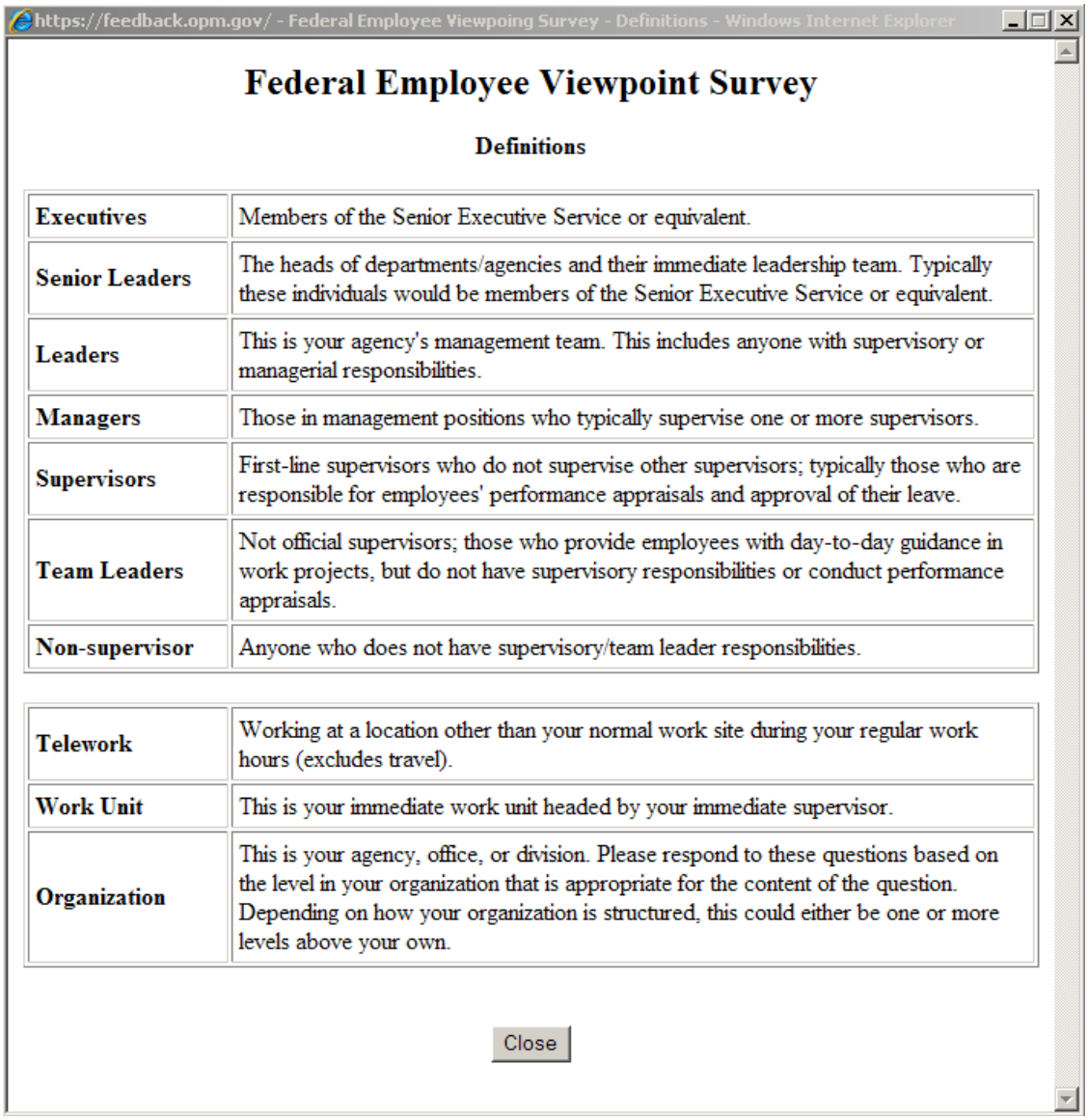
Appendix A: Permission to Copy Figure 1, Definitions from Federal Employee Viewpoint Survey

From: EVS Internet [mailto:EVS.Internet@opm.gov]
Sent: Tuesday, August 26, 2014 2:43 PM
To: Charles Polk
Subject: RE: FedView Survey

Charles –
Yes, you may use the image below for your dissertation.
--The FEVS Team

From: Charles Polk
Sent: Thursday, August 21, 2014 8:46 PM
To: EVS Internet
Cc: Charles Polk
Subject: FedView Survey

Hello,
I am a doctoral student conducting a dissertation utilizing the 2010 Federal Employee Viewpoint Survey data set for my study. I would like use the image below from the Federal Employee Viewpoint Survey to present the definitions used by the survey. I am requesting permission from OPM to duplicate this image in my dissertation.



https://feedback.opm.gov/ - Federal Employee Viewpoing Survey - Definitions - Windows Internet Explorer

Federal Employee Viewpoint Survey

Definitions

Executives	Members of the Senior Executive Service or equivalent.
Senior Leaders	The heads of departments/agencies and their immediate leadership team. Typically these individuals would be members of the Senior Executive Service or equivalent.
Leaders	This is your agency's management team. This includes anyone with supervisory or managerial responsibilities.
Managers	Those in management positions who typically supervise one or more supervisors.
Supervisors	First-line supervisors who do not supervise other supervisors; typically those who are responsible for employees' performance appraisals and approval of their leave.
Team Leaders	Not official supervisors; those who provide employees with day-to-day guidance in work projects, but do not have supervisory responsibilities or conduct performance appraisals.
Non-supervisor	Anyone who does not have supervisory/team leader responsibilities.

Telework	Working at a location other than your normal work site during your regular work hours (excludes travel).
Work Unit	This is your immediate work unit headed by your immediate supervisor.
Organization	This is your agency, office, or division. Please respond to these questions based on the level in your organization that is appropriate for the content of the question. Depending on how your organization is structured, this could either be one or more levels above your own.

Close

Sincerely,
Charles Polk
Walden University Student

Appendix B: Agencies Surveyed by 2010 Federal Employee Viewpoint Survey

Departments/Large Agencies

Department of Agriculture
Department of Commerce
Department of Defense
– Department of the Army
– Department of the Navy
– Department of the Air Force
– U.S. Army Corps of Engineers
– U.S. Marine Corps
Department of Education
Department of Energy
Department of Health and Human Services
Department of Homeland Security
Department of Housing and Urban Development
Department of the Interior
Department of Justice
Department of Labor
Department of State
Department of Transportation
Department of the Treasury
Department of Veterans Affairs
U.S. Agency for International Development
Environmental Protection Agency
General Services Administration
National Aeronautics and Space Administration
National Science Foundation
Office of Management and Budget
Office of Personnel Management
Small Business Administration
Social Security Administration

Small/Independent Agencies

U.S. Access Board
Advisory Council on Historic Preservation
African Development Foundation
American Battle Monuments Commission
Broadcasting Board of Governors
Chemical Safety and Hazard Investigation Board
Commission on Civil Rights
Committee for Purchase from People who are Blind or Severely Disabled
Commodity Futures Trading Commission
Consumer Product Safety Commission
Corporation for National and Community Service
Court Services and Offender Supervision Agency
Defense Nuclear Facilities Safety Board
Equal Employment Opportunity Commission
Federal Communications Commission
Federal Election Commission
Federal Energy Regulatory Commission
Federal Housing Finance Agency
Federal Labor Relations Authority
Federal Maritime Commission
Federal Mediation and Conciliation Service
Federal Retirement Thrift Investment Board
Federal Trade Commission
Institute of Museum and Library Services
Inter-American Foundation
International Boundary and Water Commission
Marine Mammal Commission
Merit Systems Protection Board
National Archives and Records Administration
National Capital Planning Commission
National Council on Disability
National Credit Union Administration

National Endowment for the Arts
National Endowment for the Humanities
National Gallery of Art
National Indian Gaming Commission
National Labor Relations Board
National Mediation Board
Small/Independent Agencies (continued)

National Transportation Safety Board
Nuclear Regulatory Commission
Nuclear Waste Technical Review Board
Occupational Safety and Health Review Commission
Office of Navajo and Hopi Indian Relocation
Office of U.S. Trade Representative
Pension Benefit Guaranty Corporation
Postal Regulatory Commission
Railroad Retirement Board
Securities and Exchange Commission
Selective Service System
Surface Transportation Board
Trade and Development Agency
U.S. International Trade Commission
Woodrow Wilson International Center for Scholars

(OPM, 2010, p. 35-36)

Appendix C: Permission to Adapt Figure 2, Statistical Test Selection Tree

From: **Professor Andy Field** Date: Mon, Jul 21, 2014 at 7:21 AM
Subject: Re: Permission to adapt page 822 of Discovering Statistics using SPSS Third Edition
To: Charles Polk

Hi Charles,

In my discipline (psychology) it would be seen as overkill a bit to include a decision tree in an appendix of a thesis (after all you can just refer to the book). However, I don't have any problem with you doing so given you have cited the book as the source. I've attached the original image from the third ed. in case you'd rather just use that.

best wishes

andy

Prof Andy Field / Professor of Child Psychopathology

University of Sussex
Child Anxiety Theory and Treatment Laboratory (CATTLab), School of Psychology, University of Sussex, Falmer, Brighton, BN1 9QH
www.sussex.ac.uk/psychology/cattlab

From: **Charles Polk**
Date: Sat, Jul 19, 2014 at 1:11 PM
Subject: Permission to adapt page 822 of Discovering Statistics using SPSS Third Edition
To: Andy Field
Cc: Charles Polk
Dr. Field,

I am a PhD student of Public Policy and Administration at Walden University. I am writing my quantitative proposal and dissertation on the affect of pay-for-performance on the generational perceptions of job satisfaction. I would like to adapt the statistical test decision tree presented on page 822 of your book, Discovering Statistics Using SPSS (3rd Edition) with your permission, as shown in the attachment.

I am seeking your permission to include the figure I adapted. If you approve, I would appreciate it if you would kindly so indicate via return email. Per my university's policy, your approval would appear in an appendix of my dissertation.

Thank you in advance for your consideration of my request.

Sincerely,
Charles Polk

Appendix D: 2010 Federal Employees' Viewpoint Survey Codebook

Q1-Q78

1. I am given a real opportunity to improve my skills in my organization.
2. I have enough information to do my job well.
3. I feel encouraged to come up with new and better ways of doing things.
4. My work gives me a feeling of personal accomplishment.
5. I like the kind of work I do.
6. I know what is expected of me on the job.
7. When needed I am willing to put in the extra effort to get a job done.
8. I am constantly looking for ways to do my job better.
9. I have sufficient resources (for example, people, materials, budget) to get my job done.
10. My workload is reasonable.
11. My talents are used well in the workplace.
12. I know how my work relates to the agency's goals and priorities.
13. The work I do is important.
14. Physical conditions (for example, noise level, temperature, lighting, cleanliness in the workplace) allow employees to perform their jobs well.
15. My performance appraisal is a fair reflection of my performance.
16. I am held accountable for achieving results.
17. I can disclose a suspected violation of any law, rule or regulation without fear of reprisal.
18. My training needs are assessed.
19. In my most recent performance appraisal, I understood what I had to do to be rated at different performance levels (for example, Fully Successful, Outstanding).
20. The people I work with cooperate to get the job done.
21. My work unit is able to recruit people with the right skills.
22. Promotions in my work unit are based on merit.
23. In my work unit, steps are taken to deal with a poor performer who cannot or will not improve.
24. In my work unit, differences in performance are recognized in a meaningful way.
25. Awards in my work unit depend on how well employees perform their jobs.
26. Employees in my work unit share job knowledge with each other.
27. The skill level in my work unit has improved in the past year?
28. How would you rate the overall quality of work done by your work unit?
29. The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals.
30. Employees have a feeling of personal empowerment with respect to work processes.
31. Employees are recognized for providing high quality products and services.
32. Creativity and innovation are rewarded.
33. Pay raises depend on how well employees perform their jobs.

34. Policies and programs promote diversity in the workplace (for example, recruiting minorities and women, training in awareness of diversity issues, mentoring).
35. Employees are protected from health and safety hazards on the job.
36. My organization has prepared employees for potential security threats.
37. Arbitrary action, personal favoritism and coercion for partisan political purposes are not tolerated.
38. Prohibited Personnel Practices (for example, 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.
39. My agency is successful at accomplishing its mission.
40. I recommend my organization as a good place to work.
41. I believe the results of this survey will be used to make my agency a better place to work.
42. My supervisor supports my need to balance work and other life issues.
43. My supervisor/team leader provides me with opportunities to demonstrate my leadership skills.
44. Discussions with my supervisor/team leader about my performance are worthwhile.
45. My supervisor/team leader is committed to a workforce representative of all segments of society.
46. My supervisor/team leader provides me with constructive suggestions to improve my job performance.
47. Supervisors/team leaders in my work unit support employee development.
48. My supervisor/team leader listens to what I have to say.
49. My supervisor/team leader treats me with respect.
50. In the last six months, my supervisor/team leader has talked with me about my performance.
51. I have trust and confidence in my supervisor.
52. Overall, how good a job do you feel is being done by your immediate supervisor/team leader?
53. In my organization, leaders generate high levels of motivation and commitment in the workforce.
54. My organization's leaders maintain high standards of honesty and integrity.
55. Managers/supervisors/team leaders work well with employees of different backgrounds.
56. Managers communicate the goals and priorities of the organization.
57. Managers review and evaluate the organization's progress toward meeting its goals and objectives.
58. Managers promote communication among different work units (for example, about projects, goals, needed resources).
59. Managers support collaboration across work units to accomplish work objectives.
60. Overall, how good a job do you feel is being done by the manager directly above your immediate supervisor/team leader?
61. I have a high level of respect for my organization's senior leaders.

62. Senior leaders demonstrate support for Work/Life programs.
63. How satisfied are you with your involvement in decisions that affect your work?
64. How satisfied are you with the information you receive from management on what's going on in your organization?
65. How satisfied are you with the recognition you receive for doing a good job?
66. How satisfied are you with the policies and practices of your senior leaders?
67. How satisfied are you with your opportunity to get a better job in your organization?
68. How satisfied are you with the training you receive for your present job?
69. Considering everything, how satisfied are you with your job?
70. Considering everything, how satisfied are you with your pay?
71. Considering everything, how satisfied are you with your organization?
72. Please select the response below that BEST describes your teleworking situation.
73. How satisfied are you with the following Work/Life programs in your agency... Telework?
74. How satisfied are you with the following Work/Life programs in your agency... Alternative Work Schedules (AWS)?
75. How satisfied are you with the following Work/Life programs in your agency... Health and Wellness Programs (for example, exercise, medical screening, quit smoking programs)?
76. How satisfied are you with the following Work/Life programs in your agency... Employee Assistance Program (EAP)?
77. How satisfied are you with the following Work/Life programs in your agency... Child Care Programs (for example, daycare, parenting classes, parenting support groups)?
78. How satisfied are you with the following Work/Life programs in your agency... Elder Care Programs (for example, support groups, speakers)?

VALUE LABELS

Q1 TO Q8

5 "Strongly Agree"
4 "Agree"
3 "Neither Agree nor Disagree"
2 "Disagree"
1 "Strongly Disagree"

Q9 TO Q18

5 "Strongly Agree"
4 "Agree"
3 "Neither Agree nor Disagree"
2 "Disagree"
1 "Strongly Disagree"
X "Do Not Know "

Q19

5 "Strongly Agree"

4 "Agree"
3 "Neither Agree nor Disagree"
2 "Disagree"
1 "Strongly Disagree"
X "No Basis to Judge "

Q20

5 "Strongly Agree"
4 "Agree"
3 "Neither Agree nor Disagree"
2 "Disagree"
1 "Strongly Disagree"

Q21 TO Q27

5 "Strongly Agree"
4 "Agree"
3 "Neither Agree nor Disagree"
2 "Disagree"
1 "Strongly Disagree"
X "Do Not Know "

Q28

5 " Very Good"
4 " Good"
3 " Fair"
2 " Poor"
1 " Very Poor"

Q29 TO Q39

5 "Strongly Agree"
4 "Agree"
3 "Neither Agree nor Disagree"
2 "Disagree"
1 "Strongly Disagree"
X "Do Not Know "

Q40

5 "Strongly Agree"
4 "Agree"
3 "Neither Agree nor Disagree"
2 "Disagree"
1 "Strongly Disagree"

Q41 TO Q47

5 "Strongly Agree"
4 "Agree"
3 "Neither Agree nor Disagree"
2 "Disagree"
1 "Strongly Disagree"
X "Do Not Know "

Q48 TO Q51

5 "Strongly Agree"
4 "Agree"
3 "Neither Agree nor Disagree"
2 "Disagree"
1 "Strongly Disagree"

Q52

5 " Very Good"
4 " Good"
3 " Fair"
2 " Poor"
1 " Very Poor"

Q53 TO Q59

5 "Strongly Agree"
4 "Agree"
3 "Neither Agree nor Disagree"
2 "Disagree"
1 "Strongly Disagree"
X "Do Not Know "

Q60

5 " Very Good"
4 " Good"
3 " Fair"
2 " Poor"
1 " Very Poor"
X “Do Not Know”

Q61 TO Q62

5 "Strongly Agree"
4 "Agree"
3 "Neither Agree nor Disagree"
2 "Disagree"
1 "Strongly Disagree"
X "Do Not Know "

Q63 TO Q71

5 "Very Satisfied"
4 "Satisfied"
3 "Neither Satisfied nor Dissatisfied"
2 "Dissatisfied"
1 "Very Dissatisfied"

Q72

1 “I telework on a regular basis (at least one entire work day a week).”
2 “I telework infrequently (less than one entire work day a week).”
3 “I do not telework because I have to be physically present on the job (e.g., Law Enforcement Officers, Park Rangers, Security Personnel).”

4 “I do not telework because I have technical issues (e.g., connectivity, inadequate equipment) that prevent me from teleworking.”
5 “I do not telework because I am not allowed to, even though I have the kind of job where I can telework.”
6 “I do not telework because I choose not to telework.”

Q73 TO Q78

5 "Very Satisfied"
4 "Satisfied"
3 "Neither Satisfied nor Dissatisfied"
2 "Dissatisfied"
1 "Very Dissatisfied"
X “No Basis to Judge”

DLOC

79. Where do you work?
[A] Headquarters
[B] Field

DSUPER

80. What is your supervisory status?
[A] Non-Supervisor/ Team Leader
[B] Supervisor
[C] Manager/Executive

DSEX

81. Are you:
[A] Male
[B] Female

DMINORITY

[1] Minority
[2] Non-minority

DAGEGRP

84. What is your age group?
[G] 29 and under
[H] 30-39
[I] 40-49
[J] 50-59
[K] 60 or older

DPAYCAT

85. What is your pay category/grade?
[A] Federal Wage System
[B] GS 1-12
[C] GS 13-15
[D] SES/SL/ST/Other

DFEDTEN

86. How long have you been with the Federal Government (excluding military service)?
    [A] Less than 1 year
    [B] 1 to 3 years
    [C] 4 to 5 years
    [D] 6 to 10 years
    [E] 11 to 14 years
    [F] 15 to 20 years
    [G] More than 20 years

DAGYTEN

87. How long have you been with your current agency (for example, Department of Justice, Environmental Protection Agency)?
    [A] Less than 1 year
    [B] 1 to 3 years
    [C] 4 to 5 years
    [D] 6 to 10 years
    [E] 11 to 20 years
    [F] More than 20 years

DLEAVING

88. Are you considering leaving your organization within the next year, and if so, why?
    [F] No
    [G] Yes, to retire
    [H] Yes, to take another job within the Federal Government
    [I] Yes, to take another job outside the Federal Government
    [J] Yes, other

DRETIRE

89. I am planning to retire:
    [A] Within one year
    [B] Between one and three years
    [C] Between three and five years
    [D] Five or more years

Additional Variables:

POSTWT: Weight applied to each respondent.

Appendix E: Power Analysis

RQ1 – Small effect size

F tests - ANOVA: Fixed effects, omnibus, one-way

Analysis:	*A priori*: Compute required sample size	
Input:	Effect size f	= .10
	α err prob	= .05
	Power (1-β err prob)	= .80
	Number of groups	= 3
Output:	Noncentrality parameter λ	= 9.6900000
	Critical F	= 3.0050418
	Numerator df	= 2
	Denominator df	= 966
	Total sample size	= 969
	Actual power	= .8011010

RQ1 – Medium effect size

F tests - ANOVA: Fixed effects, omnibus, one-way

Analysis:	*A priori*: Compute required sample size	
Input:	Effect size f	= .25
	α err prob	= .05
	Power (1-β err prob)	= .80
	Number of groups	= 3
Output:	Noncentrality parameter λ	= 9.9375000
	Critical F	= 3.0540042
	Numerator df	= 2
	Denominator df	= 156
	Total sample size	= 159
	Actual power	= .8048873

RQ1 – Large effect size

F tests - ANOVA: Fixed effects, omnibus, one-way

Analysis:	*A priori*: Compute required sample size	
Input:	Effect size f	= .40
	α err prob	= .05
	Power (1-β err prob)	= .80
	Number of groups	= 3
Output:	Noncentrality parameter λ	= 10.5600000
	Critical F	= 3.1428085
	Numerator df	= 2
	Denominator df	= 63
	Total sample size	= 66
	Actual power	= .8180744

RQ2 – Small effect size
F tests - ANOVA: Fixed effects, omnibus, one-way
Analysis: *A priori*: Compute required sample size

Input:	Effect size f	= .10
	α err prob	= .05
	Power (1-β err prob)	= .80
	Number of groups	= 5
Output:	Noncentrality parameter λ	= 12.0000000
	Critical F	= 2.3793764
	Numerator df	= 4
	Denominator df	= 1195
	Total sample size	= 1200
	Actual power	= .8006464

RQ2 – Medium effect size
F tests - ANOVA: Fixed effects, omnibus, one-way
Analysis: *A priori*: Compute required sample size

Input:	Effect size f	= .25
	α err prob	= .05
	Power (1-β err prob)	= .80
	Number of groups	= 5
Output:	Noncentrality parameter λ	= 12.5000000
	Critical F	= 2.4179625
	Numerator df	= 4
	Denominator df	= 195
	Total sample size	= 200
	Actual power	= .8097710

RQ2 – Large effect size
F tests - ANOVA: Fixed effects, omnibus, one-way
Analysis: *A priori*: Compute required sample size

Input:	Effect size f	= .40
	α err prob	= .05
	Power (1-β err prob)	= .80
	Number of groups	= 5
Output:	Noncentrality parameter λ	= 12.8000000
	Critical F	= 2.4936960
	Numerator df	= 4
	Denominator df	= 75
	Total sample size	= 80
	Actual power	= .8030845

RQ3 and RQ4 – Small effect size
F tests - Linear multiple regression: Fixed model, R^2 deviation from zero

Analysis: *A priori*: Compute required sample size

Input:	Effect size f²	= .02
	α err prob	= .05
	Power (1-β err prob)	= .80
	Number of predictors	= 4
Output:	Noncentrality parameter λ	= 12.0400000
	Critical F	= 2.3868590
	Numerator df	= 4
	Denominator df	= 597
	Total sample size	= 602
	Actual power	= .8003561

RQ3 and RQ4 – Medium effect size

F tests - Linear multiple regression: Fixed model, R² deviation from zero

Analysis: *A priori*: Compute required sample size

Input:	Effect size f²	= .15
	α err prob	= .05
	Power (1-β err prob)	= .80
	Number of predictors	= 4
Output:	Noncentrality parameter λ	= 12.7500000
	Critical F	= 2.4858849
	Numerator df	= 4
	Denominator df	= 80
	Total sample size	= 85
	Actual power	= .8030923

RQ3 and RQ4 – Large effect size

F tests - Linear multiple regression: Fixed model, R² deviation from zero

Analysis: *A priori*: Compute required sample size

Input:	Effect size f²	= .35
	α err prob	= .05
	Power (1-β err prob)	= .80
	Number of predictors	= 4
Output:	Noncentrality parameter λ	= 14.0000000
	Critical F	= 2.6414652
	Numerator df	= 4
	Denominator df	= 35
	Total sample size	= 40
	Actual power	= .8110231

RQ5

Input:	Tail(s)	= Two
	Odds ratio	= 2.3333333
	Pr(Y=1|X=1) H0	= .3

	α err prob	= .05
	Power (1-β err prob)	= .95
	R^2 other X	= 0
	X distribution	= Normal
	X parm μ	= 0
	X parm σ	= 1
Output:	Critical z	= 1.9599640
	Total sample size	= 104
	Actual power	= .9515234

Appendix F: Permission to Use the 2010 Federal Employee Viewpoint Survey Data Set

From: EVS Internet [mailto:EVS.Internet@opm.gov]
Sent: Tuesday, March 04, 2014 10:15 AM
To: Charles Polk
Subject: RE: 2012 Public Use Data File Request

Good morning - The SPSS version of 2012 Federal Employee Viewpoint Survey (FEVS) data file and codebook can be accessed through the following link:

http://www.fedview.opm.gov/2012FILES/FEVS2012_PRDF_SPSS.zip

The link below will allow you to access to the 2010 public release data file and codebook:

http://www.fedview.opm.gov/2010/EVSDATA/

The FEVS Team

From: charles.polk@waldenu.edu [mailto:charles.polk@waldenu.edu]
Sent: Monday, March 03, 2014 5:09 PM
To: EVS Internet
Subject: 2012 Public Use Data File Request

Name: Charles Polk
Affiliation: Walden University Doctoral Student
E-Mail: Charles Polk
Phone: (770) 941-8038
Requested File: Full Extract
Requested File Format: SPSS
Intended Use: Request 2010 Federal Employee Viewpoint Survey data set and permission to use the data set to study the affect of pay banding on generation perceptions of job satisfaction among frontline managers.

From: Simons, Craig
Sent: Wednesday, February 15, 2012 10:27 AM
To: Charles Polk
Subject: FEVS/FHCS public release files for 2004 through 2011

Charles – below are the public release files for the FEVS/FHCS through 2011. Each link includes the data file in different versions (i.e., csv, sas, etc.) plus a data dictionary.

Let me know if you have any additional questions.
--Craig

2011:
http://www.fedview.opm.gov/2011/EVSDATA/

2010:
http://www.fedview.opm.gov/2010/EVSDATA/

2008:
http://www.fedview.opm.gov/2008/FHCSDATA/

2006:
http://www.fedview.opm.gov/2006/FHCSDATA/

2004:
http://www.fedview.opm.gov/2004/FHCSDATA/

From: Charles Polk **Sent:** Sunday, February 12, 2012 3:56 PM
To: Craig.Simmons,OPM
Cc: Charles Polk
Subject: 2010 Federal Employee Viewpoint Survey

Good Afternoon Mr. Simmons:

I am a doctoral student at Walden University. My dissertation is on the affect of pay banding regarding job satisfaction among frontline managers. I would like to use the 2010 Federal Employee Viewpoint Survey as the data set for my dissertation. How do I go about getting permission to use the data set from the 2010 Federal Employee Viewpoint Survey?

Sincerely,
Charles Polk
Walden Ph.D. Student

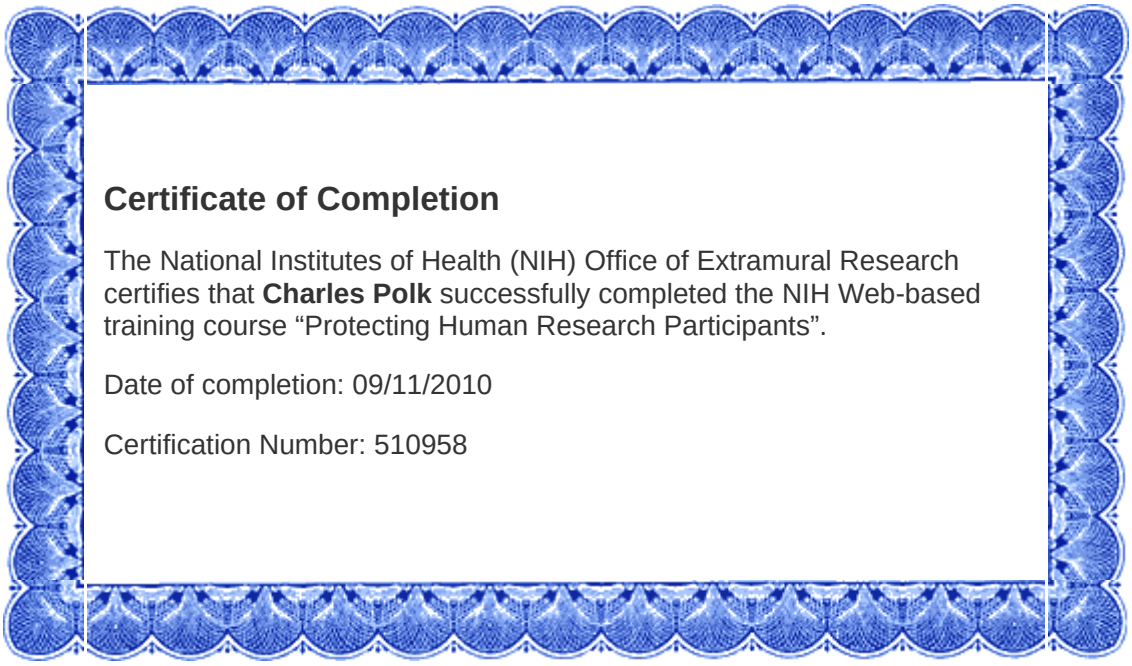
Appendix G: National Institute of Health Certificate of Completion

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Charles Polk** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 08/28/2015

Certification Number: 1812530



Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Charles Polk** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 09/11/2010

Certification Number: 510958

Appendix H: Walden University Institutional Review Board Approval Notification

From: Elizabeth Munson **On Behalf Of** IRB
Sent: Wednesday, November 05, 2014 4:52 PM
To: Charles Polk
Cc: Richard Worch; IRB
Subject: IRB Materials Approved - Charles Polk

Dear Mr. Polk,

This email is to notify you that the Institutional Review Board (IRB) confirms that your doctoral capstone entitled, "The Affect of Pay banding on Generational Cohort Perceptions of Job Satisfaction " meets Walden University's ethical standards. Since this project will serve as a Walden doctoral capstone, the Walden IRB will oversee your capstone data analysis and results reporting. Your IRB approval number is 11-05-14-0229934.

This confirmation is contingent upon your adherence to the exact procedures described in the final version of the documents that have been submitted to IRB@waldenu.edu as of this date. This includes maintaining your current status with the university and the oversight relationship is only valid while you are an actively enrolled student at Walden University. If you need to take a leave of absence or are otherwise unable to remain actively enrolled, this is suspended.

If you need to make any changes to the project staff or procedures, you must obtain IRB approval by submitting the IRB Request for Change in Procedures Form. You will receive confirmation with a status update of the request within 10 business days of submitting the change request form and are not permitted to implement changes prior to receiving approval. Please note that Walden University does not accept responsibility or liability for research activities conducted without the IRB's approval, and the University will not accept or grant credit for student work that fails to comply with the policies and procedures related to ethical standards in research.

When you submitted your IRB materials, you made a commitment to communicate both discrete adverse events and general problems to the IRB within 1 week of their occurrence/realization. Failure to do so may result in invalidation of data, loss of academic credit, and/or loss of legal protections otherwise available to the researcher.

Both the Adverse Event Reporting form and Request for Change in Procedures form can be obtained at the IRB section of the Walden website:
http://academicguides.waldenu.edu/researchcenter/orec

You are expected to keep detailed records of your capstone activities for the same period of time you retain the original data. If, in the future, you require copies of the originally submitted IRB materials, you may request them from Institutional Review Board.

Both students and faculty are invited to provide feedback on this IRB experience at the link below:

http://www.surveymonkey.com/s.aspx?sm=qHBJzkJMUx43pZegKlmdiQ_3d_3d

Sincerely,
Libby Munson
Research Ethics Support Specialist
Office of Research Ethics and Compliance
Email: irb@waldenu.edu
Fax: 626-605-0472
Phone: 612-312-1283

Office address for Walden University:
100 Washington Avenue South, Suite 900
Minneapolis, MN 55401

Information about the Walden University Institutional Review Board, including instructions for application, may be found at this link:
http://academicguides.waldenu.edu/researchcenter/orec