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Predictors of Turnover Intent in the Executive Branch: A Multiple Logistic Regression Analysis Using Federal Employee Viewpoint Survey Indices

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DEDICATION

I dedicate this dissertation to my family. To my loving parents, Glen and Esther Jansen, I thank you for your love, words of encouragement, and never wavering support. Your belief in me has always given me courage. To my siblings, Don, Janet, and Doug, I appreciate your patience, kindness and understanding throughout the years. To Caleb, I love you. You make me proud to be your dad and your jokes brighten my day.

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Predictors of Turnover Intent in the Executive Branch: A Multiple Logistic Regression Analysis Using Federal Employee Viewpoint Survey Indices

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ABSTRACT

The purpose of this research is to highlight the antecedents of employee turnover, one of the most understudied areas in human resource management. Given the phenomenon of the “great resignation” that is resulting from the COVID-19 pandemic, the topic of turnover assumes greater significance. The relationship between employee perceptions of workplace indices and stated turnover intention is examined using the 2017 Federal Employee Viewpoint Survey of 486,105 executive branch employees from 195 subagencies. The indices included in the study are the Employee Engagement Index, Global Satisfaction Index, Human Capital Assessment and Accountability Framework, and the New Inclusion Quotient. As predicted, multiple logistic regression analysis revealed that satisfaction with the job, general satisfaction with the employer, fairness of compensation, and talent management practices at the workplace were the major influencers of turnover intention. These results were further validated with the Receiver Operating Characteristics Curve for their discriminant ability. Employees who were satisfied with their jobs, their overall agency, distributive equity, and their agency's talent management practices were more likely to stay at their organizations than others. Of these different variables, job satisfaction and general satisfaction were most strongly related to employee intent to stay. A further examination of underlying items of the four variables using Principal Component Analysis revealed that "work environment" and "work value" explained employee intention to leave. The major conclusions are that if managers want to reduce turnover, they need to support a fair and

equitable workplace where employees perceive that they are valued, and their talents are utilized. Employees also need to feel good about their jobs and employers. The results also suggest that the employees and organizations can outgrow each other. Empowered employees, with a high-performance record, who have limited growth opportunities for advancement can outgrow their organizations. Sometimes organizations can outgrow employees who are unable to adapt to changing conditions. Implications for theory, practice, and future research conclude the dissertation.

CHAPTER 1: INTRODUCTION

Employee turnover is a significant issue for all employers, including the United States federal government. As a result of turnover, productivity and institutional knowledge are lost, the workloads of the employees who remain increase, and additional resources are spent on recruiting. Moreover, hiring, and orienting replacement employees can be a lengthy process, costing one-and-one-half to two-times an employee's salary (Fellay, 2021). This research is timely, as evidence by the numerous articles that have been published recently about the "Great Resignation" occurring in the fall of 2021 (Avitzur, 2021; Cook, 2021; Ghandi & Robison, 2021; Hopkins & Figaro, 2021). The factors contributing to the "Great Resignation" are not fully understood yet: the current research may help to develop an understanding by providing a pre-pandemic perspective for comparison. One factor that makes the hiring process lengthy is that new employees must complete training to be productive in the highly specialized environments of many federal workplaces. This adds to a time and money commitment but provides no guarantees that the new staff will be effective in their jobs, nor does it guarantee that they will stay in their jobs; indeed, new employees are more likely to leave within their first two years of employment (Katz, 2020). Therefore, keeping turnover rates to a minimum seems to be the responsible course of action. Nevertheless, federal budgets frequently limit the availability of cash that can be used as an incentive to encourage federal employees to remain with the organization.

These are several significant reasons why federal leaders must work to reduce employee turnover rates. This is especially true in federal agencies that employ large numbers of individuals in tight labor market occupations, like healthcare professions, which are in high demand outside the federal government. To reduce employee turnover rates, federal leaders must

first understand the factors that influence turnover intent, which will help them to identify strategies to address any turnover issues they may encounter at their agencies.

Various employee data are needed for analysis to determine the factors that influence turnover intent. Federal leaders are generally not constrained in their access to information about their employees. The U.S. Office of Personnel Management (OPM) makes available highly targeted workforce planning data based on electronic employment records. In addition, federal agencies are required by law to gather data on their employees through annual employee viewpoint surveys. According to Section 1128 of the National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108–136, 5 U.S.C. 7101; U.S. House of Representatives, 2004), each agency is required to conduct an annual survey of its employees for the following purpose:

> To assess (1) leadership and management practices that contribute to agency performance; and (2) employee satisfaction with (A) leadership policies and practices; (B) work environment; (C) rewards and recognition for professional accomplishment and personal contributions to achieving organizational mission; (D) opportunity for professional development and growth; and (E) opportunity to contribute to achieving organizational mission.

The law requires the U.S. OPM to "issue regulations prescribing survey questions that should appear on all agency surveys" (Section 1128). These surveys ask federal employees to respond to multiple questions, specified in the OPM regulations, regarding their views about their workplace, as well as a range of demographic questions on issues such as the employee's intent to retire, to move to another federal agency, or to otherwise leave their employment. The law requires agencies to post the results of these surveys on their websites and make them available to the public unless the head of the agency determines that doing so would jeopardize

or negatively impact national security. Therefore, results for an agency that does not fall under this exception are accessible through that agency's website. The results of these surveys are also made available to the public in the form of annual reports published by the OPM. The Washington, DC area press (for example, *Government Executive* magazine and the *Washington Post*) regularly publish articles that address the results. Various oversight agencies, such as the Government Accountability Office (Government Accountability Office, 2015a, 2015b), employee organizations, and union representatives from those organizations, also distribute information based on the results, as do groups like the Partnership for Public Service, a non-partisan, non-profit organization that seeks to strengthen the government and democracy. Each year the Partnership for Public Service publishes an annual list of best federal agencies to work for (Partnership for Public Service, 2020), based, in part, on the survey results.

As a result of these public postings, external perceptions of employee-reported intent to leave can become another concern for leaders. Increasing this concern is found in articles like the one written by Charles Clark (2012) for *Government Executive* magazine (widely read in the federal leadership community), which reported that high turnover negatively impacts employee morale. Concerns about turnover are also highlighted in congressional hearings. For instance, the president of the National Treasury Employees Union (NTEU), Tony Reardon, testified to Congress that "staffing shortages, high turnover in agency leadership and constant attacks on employee rights and benefits all contribute to low morale among Customs and Border Protection employees" (National Treasury Employees Union, 2020). NTEU also noted that "the latest Partnership for Public Service's 2019 Best Places to Work in the Federal Government report ranked CBP (Customs and Border Protection) 380th out of 420 component agencies, and for six consecutive years, the Department of Homeland Security ranked last among large agencies."

In an analysis of data on federal separations, the Partnership for Public Service reported "the number of departing employees has increased for most years since fiscal 2009," with the highest attrition rates recorded for both the Senior Executive Service, at 11.3%, and entry-level employees, at 7.6% (2014, p. 4). The paper further indicated "the high turnover among entry-level talent poses challenges as agencies cultivate talent pipelines" (p. 4). According to the Partnership for Public Service, "predicting, preparing [for] and managing these departures is critical to reshaping the federal workforce to meet evolving needs" (2014, p. 4). While Partnership for Public Service included retirement in their attrition numbers, this research will not include retirement. Rather it considers those who intend to leave their current position for either another position in federal government or position outside of federal government.

Federal managers check the pulse of their organizations through the annual FEVS survey results; they examine especially the scores on turnover intention. Federal government workforce leaders and supervisors are encouraged to use these survey results in leading and managing their areas of responsibility. Before senior staff can wisely address such results, they must first understand the relationships between the FEVS factors that predict turnover intent. In addition, leadership must understand the interrelationships between the 13 FEVS subindices and intent to leave. These subindices will be defined in this chapter in the definition of key terms.

Problem Statement

The following details place this issue in context. The U.S. Office of Management and Budget estimated that the federal government paid full-time permanent executive branch civilian employees a total of $200,576 million in salaries and benefits in fiscal year (FY) 2017 (ending September 30, 2017), which equals approximately 1% of the U.S. gross domestic product (Office of Management and Budget, 2017). According to the most recent U.S. OPM reports, as of FY

2017, the executive branch of the federal government employed 2,087,747 employees, 89.57% (1,869,986) of whom were non-seasonal, full-time, permanent (NSFTP) employees (Office of Personnel Management [OPM], 2019). The NSFTP federal executive branch workforce is the focus of this paper. The executive branch, which includes agency leadership, represents the largest segment of the federal workforce and is best able to use research to lead and impact retention. This study will not examine the Legislative Branch or the Judicial Branch of government. The Executive Branch includes 43 agencies from the Department of Veterans Affairs to the United States Department of the Air Force. It also includes 195 Subagencies ranging from the National Gallery of Art to the Securities and Exchange Commission. The average annual salary of the NSFTP executive branch workforce for FY 2017 was $85,284, and the median salary was $79,386.

According to OPM (2020b) as shown in Table 1.1, from FY 2015 through FY 2019, NSFTP federal government executive branch employee resignations totaled 207,738, ranging from a low of 41,533 in FY 2015 to a high of 51,920 in FY 2019; in FY 2017, the number was 46,429, which equated to an NSFTP federal government employee quit rate of 2.5%. During the same FY 2015–FY 2019 period, separations of all types (resignations, retirements, involuntary terminations, etc.) for these employees totaled 608,524, with a high of 129,354 in FY 2019 and a low of 116,663 in FY 2015 (OPM, 2020b). These years of attrition data bring into view the need for understanding FEVS data and turnover intention for the year 2017.

Table 1.1

Federal Employee Separations FY 2015–FY 2019 as Reported by U.S. OPM

Values	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2015–2019
Quit	41,533	43,703	46,429	48,574	51,920	232,159
Retirement	61,957	59,710	59,187	63,452	63,049	307,355
Reduction in Force	308	155	88	165	104	820
Termination or Removal	10,073	10,167	10,580	11,379	11,427	53,626
Death	2,753	2,898	2,915	2,837	2,793	14,196
Other Separation	39	52	50	41	61	243
Separation from Federal Civil Service	116,663	116,685	119,249	126,448	129,354	608,399

Note: OPM = Office of Personnel Management.

Table 1.2

Total Number of Federal Employees by Classification

Position Classification	SEP 2014	SEP 2015	SEP 2016	SEP 2017	SEP 2018
Supervisor	251,207	254,888	255,112	247,911	243,532
Leader	30,920	30,426	31,208	36,721	37,618
Non-Supervisor	1,544,589	1,563,114	1,581,600	1,585,266	1,590,901
Unspecified	46	66	107	88	90
Total	1,825,762	1,848,494	1,868,027	1,869,986	1,872,141

The U.S. OPM (2020b) reported that, as of March 2019, the leadership of this workforce included 281,150 NSFTP executive branch managers and supervisors (see Table 1.2); total separations for this executive branch and supervisory staff group, including resignations,

retirements, reductions in workforce, terminations or removals, deaths, and other separations, totaled 119,249 in FY 2017, for a total turnover rate of 6.4% (see Table 1.3). This research will define turnover intention more narrowly as intention to leave their organization for a new position elsewhere. We will not be including retirements or other separations.

Table 1.3

Turnover Percentages Executive Branch Turnover Percentages by Type of Separation, FY 2014–2018*

Categories	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	5-year average
Quit	2.25%	2.25%	2.34%	2.48%	2.60%	2.39%
Retirement	3.58%	3.35%	3.20%	3.17%	3.39%	3.34%
Reduction in Force	0.02%	0.02%	0.01%	0.01%	0.01%	0.01%
Termination or Removal	0.52%	0.55%	0.54%	0.57%	0.61%	0.56%
Death	0.16%	0.15%	0.16%	0.16%	0.15%	0.15%
Other Separation	0.003%	0.002%	0.003%	0.003%	0.002%	0.003%
NSFTP Separation from Fed Civ Serv	6.53%	6.31%	6.25%	6.38%	6.75%	6.44%
NSFTP Employees	1,825,762	1,848,494	1,868,027	1,869,986	1,872,141	9,284,410

Notes: *Rounded to nearest hundredth; NSFTP = Non-Seasonal, Full-Time, Permanent.

For comparison, the Bureau of Labor Statistics (BLS) reported that the federal government had a 14.3% total turnover rate (including seasonal employees) compared to private industry's 47.8% turnover rate (U.S. Bureau of Labor Statistics, 2020). Although the federal government rate is much lower, the fact that the government generally takes six months or longer, sometimes up to a year, to hire replacements must be factored in when examining these rates and considering their impact.

The most significant way that turnover affects an organization is through its direct impact on organizational performance (Moon, 2017). Federal agency managers, who are the employees

most impacted by federal employee turnover, are acutely aware of the hire lag and the costs associated with turnover. Over ten years ago, the Partnership for Public Service (2010) estimated the financial costs of turnover for federal employees to range from half to twice the amount of the employee's salary. More recently, that cost has been estimated at one and one-half to two times the employee's salary (Altman, 2017). In addition, the Partnership reported that, while overall turnover was 5.85%, the turnover rate of employees in their first two years of employment (based on data from FYs 2006 through 2008) was 24.2%; ten years later, Katz (2020) found more than 60% of recent federal hires leave within two years. The turnover rate for this employee group alone and the associated financial costs together evidence the detrimental effect turnover can have on the government's organizational performance.

Thus, high employee turnover has been identified as a critical policy issue for public managers, who are best positioned to influence and implement organizational policy to address turnover-related issues (Hur & Hawley, 2019). To accomplish this, the workforce priorities of these organizational leaders should be informed by data related to the factors that influence intent to leave. Therefore, federal managers need to be aware of and understand the factors that influence turnover intention factors that are reflected in the FEVS. As long as anonymity is maintained as described in Chapter 3 FEVS Data Cleaning and Recoding, leaders are provided with data about their section. Some agencies even provide managers with a comparison of their unit to others in the same department for comparison. While managers do receive FEVS data related to the 4 major indices and 13 subindices after the annual survey concludes, no clear evidence exists in the literature that demonstrates which indices in these data are predictive of turnover intent. Indeed, the relationships between indices do not appear to have been fully explored in the literature or in federal government practice. This represents a significant

knowledge gap that prevents federal government leadership from using the FEVS data effectively to reduce employee turnover.

Purpose of the Study

The purpose of this quantitative research was to examine the factors represented by the FEVS indices that influence turnover intent, while controlling for gender, education, minority status, subagency, supervisory status, and tenure. The indices examined are employee engagement index (EEI), the new inclusion quotient (NEW IQ), global satisfaction index (GSI) and the human capital assessment and accountability framework (HCAAF). This research was intended to provide federal government leaders with a better understanding of the factors influencing turnover intent and to provide researchers with a better understanding of the relationships between FEVS indices and turnover intent among federal employees. A key contribution of this study is that federal leaders can use the results to gain better insights into their most valuable resources: their employees.

Research Question

The four FEVS indices of interest in determining which FEVS factors influence turnover intent in this study were EEI, NEW IQ, GSI, and HCAAF, along with their respective subindices. (For a complete listing of FEVS items for these indices and their subindices, see Appendix A.) The operational definition of "turnover intent" is based on employee responses to the FEVS question "Are you considering leaving your organization within the next year, and if so, why?" Responses of "Yes, to take another job within the federal government," and "Yes, to take another job outside of the federal government" were considered positive for intent to leave; the responses "Yes, other" and "Yes, to retire" were not considered. This study was guided by the following research question:

RQ: What are the predictors of intent to leave executive branch federal government employment based on the Federal Employee Viewpoint Survey (FEVS) indices, while controlling for gender, education, minority status, subagency, supervisory status, and tenure?

Four main hypotheses, each pertaining to one of the main indices of the FEVS data, are associated with this research question. Hypothesis 1 relates to the relationships between the EEI subindices and turnover intent, and Hypothesis 2 considers the relationships between the NEW IQ subindices and turnover intent. Hypothesis 3 evaluates the relationships between the GSI and turnover intent; the GSI does not have subindices. Finally, hypothesis four explores the relationships between the HCAAF subindices and turnover intent. The indices were evaluated using Cronbach's alpha; only items with values over .7 were included in the analysis. The hypotheses are explained in greater detail in Chapter 2.

Context

The FEVS data have been sorted, reported on by agencies, and made publicly available annually since 2010. Implementation of this survey was intended to elicit the views of federal executive branch employees. This study focuses on data from the 2017 FEVS survey. A detailed explanation for the selection of the 2017 data is given in the methodology section. Appendix A presents a complete listing of the 98 items used in the 2017 FEVS (OPM, 2017b), of which 14 are demographic and the remaining 84 measure employee perceptions. The topic areas measured with multiple questions in the FEVS were personal work experiences, leadership, work unit, satisfaction, agency, work/life programs, supervisor, and demographics. In 2017, the FEVS was available for completion for six weeks as a web-based, self-administered instrument. The 2017 report contains survey information gathered from over 485,000 employees; this number

represents a 45.5% response rate. The U.S. OPM announced that the FEVS reports have a high level of internal consistency and that "the final data set reflects the agency composition and demographic makeup of the federal workforce within plus or minus one percentage point" (OPM, 2017c, p. 2).

Theoretical Framework

This research was intended to examine the relationships between FEVS indices and their ability to predict turnover intent. Two major theories provided the framework for this investigation: Herzberg's two-factor theory and Fishbein's theory of reasoned action (TRA).

Herzberg' Two-Factor Theory

The two-factor theory that Herzberg proposed provides a theoretical foundation for understanding turnover intent. More specifically, the two-factor theory describes motivators and hygiene factors that, in combination, predict turnover intent. Hygiene factors must be met for motivators to be able to influence motivation. Herzberg described factors related to high order need satisfaction as motivators and those related to low order need satisfaction as hygiene factors (Damiji et al., 2015). Hygiene factors, such as pay and benefits, company policy, relationships, supervision quality, job security, working conditions, and work/life balance, must be met for an employee to experience general work satisfaction. Motivators, such as pay, achievement, promotion, growth, recognition, and responsibility, are tied to the nature of the work itself and can lead to job satisfaction. Pay can be both a hygiene factor and a motivator.

The other major theory that contributed to the framework for this investigation was the theory of Reasoned Action (TRA). This theory posits that attitudes and subjective norms influence the behavioral intention that precedes the behavior, linking intention to behavior

(Fishbein & Ajzen, 1975). The TRA, which is important to this research, is explained in greater detail in the following section.

Fishbein's Theory of Reasoned Action

The Theory of Reasoned Action is described as being "born out of frustration with traditional attitude-behavior research" (Hale, Householder & Greene, 2002). Icek Ajzen and Martin Fishbein introduced the Theory of Reasoned Action in 1975. The Theory of Reasoned Action proposes that a person's attitude about a topic informs their decisions about the topic. This theory aims to study the relationship between attitude and behavior as it relates to an individual's action

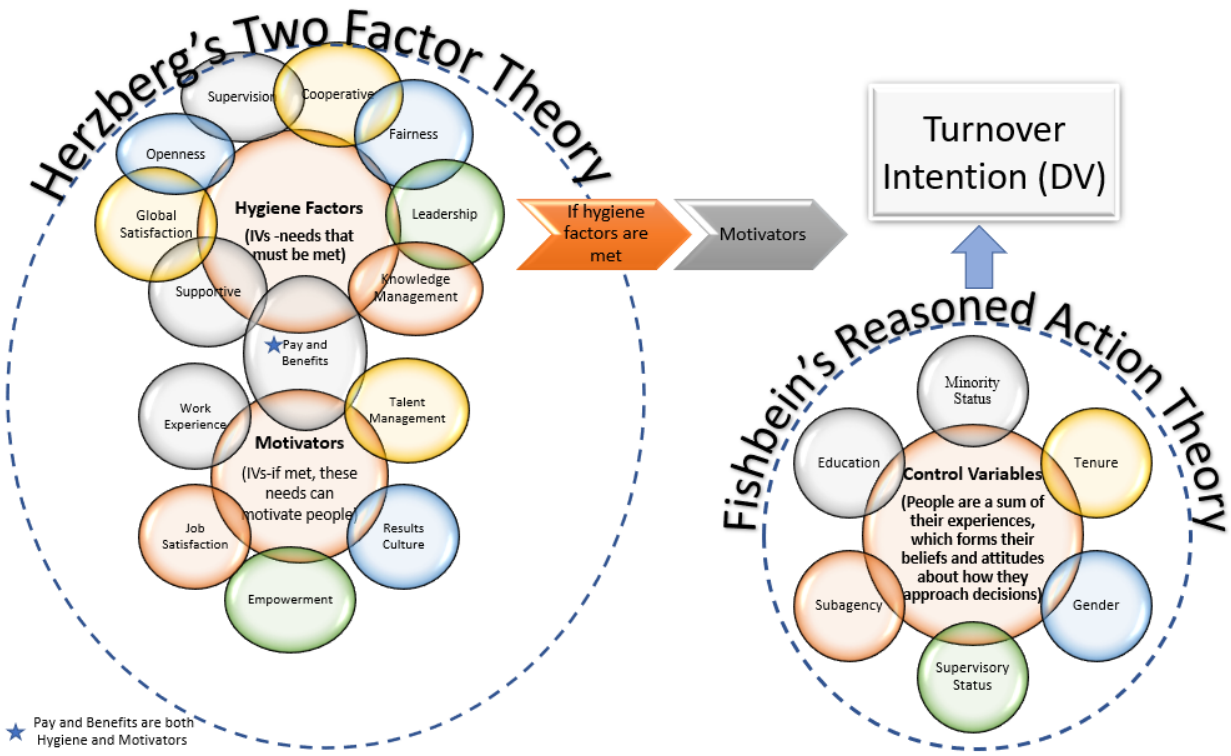
According to the TRA, attitudes are associated with affect, feelings, and evaluations, and beliefs are associated with cognition and opinions, while intentions are associated with conation. Behavioral intention is specific to an object (Fishbein & Ajzen, 1975). The TRA views behavior as an observable action and asserts that feedback from the behavior informs beliefs. Beliefs about the consequences of a behavior, therefore, influence our attitudes about that behavior, and attitude influences our intent, subsequently influencing our behavior. At the same time, normative beliefs influence our subjective norms concerning the behavior; the behavior then provides feedback to beliefs about the consequences of and normative beliefs about the behavior (Fishbein & Ajzen, 1975). The TRA essentially addresses the three components of affect, cognition, and behavioral intention and specifies causation following a circular route (Liska, 1984).

Subjective norms are a gauge of whether the individual perceives most people approve or disapprove of the behavior of interest (Weyand, 2021). In general, behavior results from intentions, which are influenced by attitudes and subjective norms. These attitudes are shaped by

beliefs about the behavior, and the subjective norms develop according to the expectations of significant others (Liska, 1984). See Figure 1.1 for a graphic representation of this study's theoretical model, representing a combination of Herzberg's two-factor theory and Fishbein's TRA. The figure focuses on Turnover Intention as the DV, it can also be understood to be the opposite as retention.

Figure 1.1

General Theoretical Model for Current Research



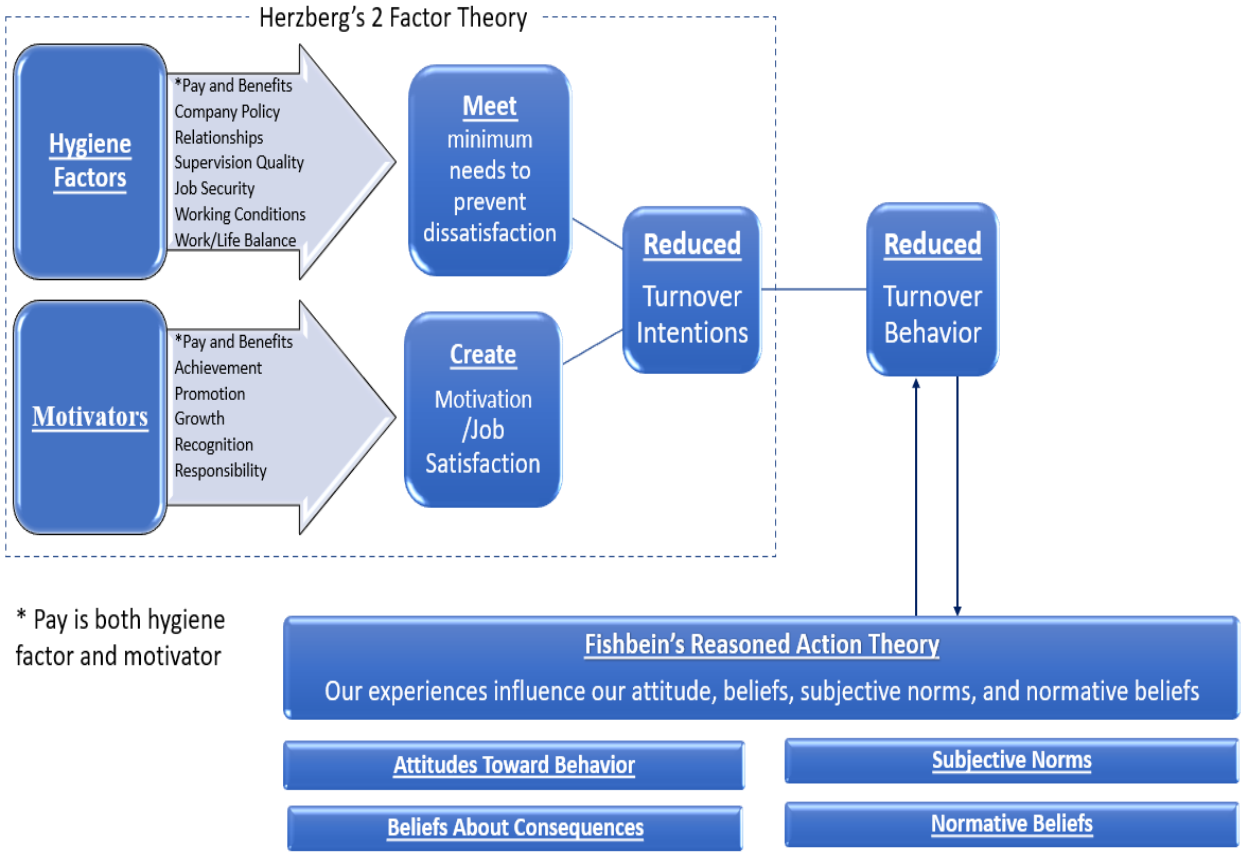
Notes: IV = Independent Variable; DV = Dependent Variable.

The two-factor theory helps to explain intent by examination of current conditions. Are the workplace hygiene factors being met and are the motivation factors in place? This is

mechanical and entirely internal based on current factors. TRA considers the sum of our experiences and how are decisions are based on our experiences and our perceived feelings about how others would view us taking a particular action. I felt these two theories together represent a better understanding of the decision process and represent the most researched of theories to address turnover intention. This also describes turnover intention and intent to stay. Figure 1.2 presents the theoretical framework for the current study with more detail related to Herzberg's and Fishbein's theories. The understanding of FEVS indices and their impact on turnover intentions is also based on research, as described next.

Figure 1.2

Theoretical Model Highlighting Two-Factor and Reasoned Action Theories



Literature Research Overview

Research literature on federal employees' turnover intention has produced a variety of recommendations for federal leaders, such as to incorporate turnover intention into workforce planning models (Pitts et al., 2011), to employ it as a measure of employee engagement (Kim & Fernandez, 2017; Lavigna, 2014), and to use it to justify measures intended to boost employee morale (Leider et al., 2016). Other methods for improving employee retention mentioned in the literature include providing flexible work schedule options, which research has shown reduces employee turnover in federal agencies (Callier, 2018). Job insecurity was found to increase the rate of expressed intent to quit (Staufenbiel, 2010); therefore, measures to improve employees' sense of job security can also be helpful. Substantially different federal department personnel systems, such as pay for performance and implementation of pay bands, have demonstrated no significant differences in major human resource outcomes (Mesch et al., 1995; Gun et al., 2021).

Fernandez and colleagues (2015) conducted a meta-analytic FEVS research review and found articles that supported employee empowerment as positively related to performance and others that indicated that innovativeness, job satisfaction, organizational commitment, and job involvement were negatively related to turnover. In their review of 40 FEVS research articles these authors did not describe any research that has examined all FEVS indices and their relationships with turnover intention. This gap in the literature is addressed in this research, in which all 13 subindices are studied to evaluate their relationship with turnover intention.

Rubenstein et al. (2018) conducted a meta-analysis of 316 articles published between 1975 and 2016 that focused on primarily nonfederal employee research in which turnover data were analyzed. They determined that employee age, education level, gender, job satisfaction, organizational commitment, tenure, and stress level significantly impacted turnover intent. A

meta-analysis of nonfederal employee research (Griffeth et al., 2000) identified job satisfaction, organizational commitment, involvement in job searches, comparison of alternatives, withdrawal cognition, and intent to resign as predictors of turnover, along with the demographics of tenure and number of children. Intent to quit in nonfederal workers can also be influenced by job dissatisfaction, lack of commitment, and stress (Firth et al., 2004); moreover, a strong interactive effect was identified between effective managers and turnover in nonfederal workers (Grissom, 2012). An employee's level of trust in a manager has been shown to have an influence on turnover intention as well (Uriesi, 2019). These predictors of intent to leave at an individual level determined which indices in the FEVS data managers should pay the most attention to when considering policies and strategies that impact employee intent to leave and, thereby, influence turnover.

Kim and Fernandex (2017) reported on testing a model of employee empowerment using the 2011 U.S. OPM FEVS data. They conceptualized employee empowerment development as requiring a multifaceted managerial approach. They found that higher levels of employee engagement by managers correlated with lower rates of expressed intent to leave.

Some federal leaders appear to have recognized the significance of the FEVS data. In 2011, the Occupational Safety and Health Administration (OSHA) ranked 141st out of 240 subagencies in the Partnership for Public Service's Best Places to Work list, based, in part, on FEVS survey data. This prompted OSHA's executive steering committee's efforts to improve its organization in order to increase its low ranking (Barnes, 2017). The U.S. Patent and Trademark Office, a subcomponent of the U.S. Department of Commerce, improved its Best Places to Work ranking from 172nd place in 2007 to first place in 2013 (Tokar & Tindal, 2014) following a

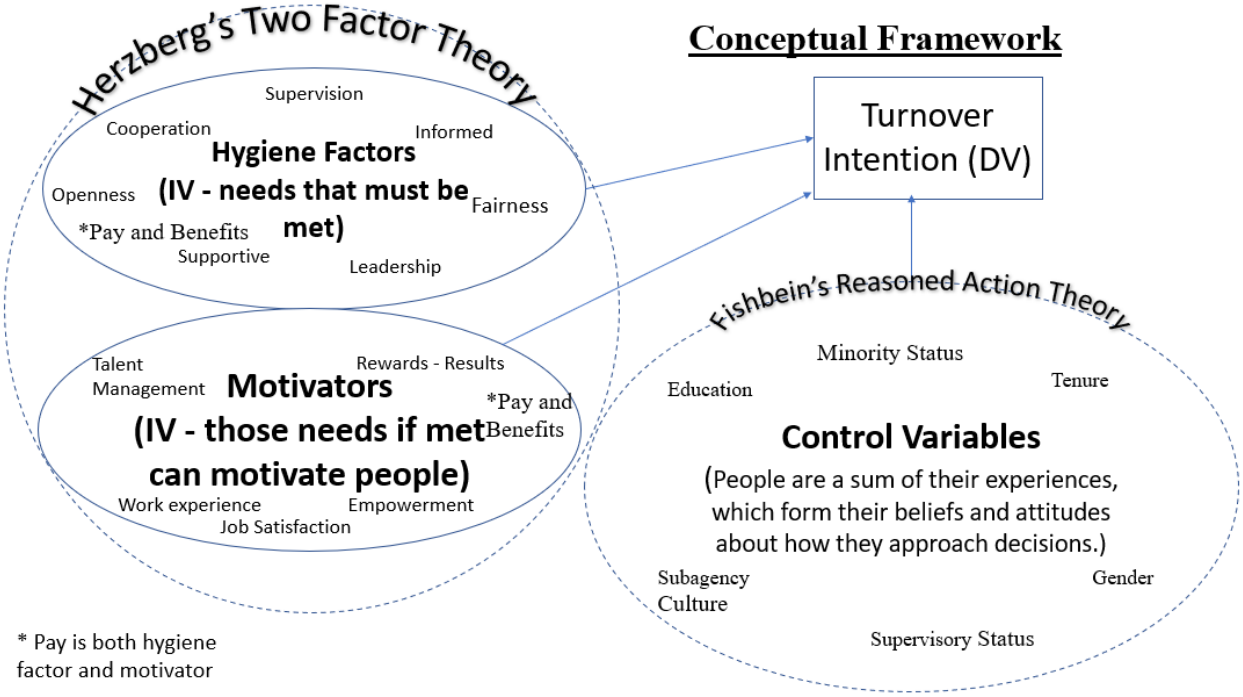
concerted effort to improve its FEVS scores and, therefore, its standing in the best places to work report.

Leider et al.(2016) reported on intent to leave among Centers for Disease Control and Prevention employees. They documented higher rates of turnover intent among younger, more educated, and more diverse staff and cautioned that the high rate of intention to leave may "prove difficult to [the implementation of] workforce development efforts" (Leider et al., 2016, p. 10).

Turnover intention or the intention to leave is present in the conceptual framework presented in Figure 1.3. In this framework turnover intention is the dependent variable and the focus of the research. It should also be noted that retention can be seen as the reverse of turnover intention.

Figure 1.3

Conceptual framework Highlighting Two-Factor and Reasoned Action Theories



Overview of the Methodology

For the current research, I used logistic regression analysis to investigate predictors of a federal executive branch employee's turnover intention using existing 2017 FEVS data. I employed a receiving operator characteristic (ROC) curve to examine specificity and sensitivity and to determine discrimination ability, and I conducted an additional factor analysis to identify the principal components of the significant variables. The research was intended to examine the factors reflected in the FEVS indices that influence intent to leave, while controlling for gender, education, minority status, subagency, supervisory status, and tenure. These control variables are based on research as described in Chapter 2 and as supports for Fishbein's Reasoned Action Theory. For several reasons, I selected FEVS data from 2017 for this quantitative study. After 2017, some large agencies, such as Veterans Affairs (VA) with over 360,000 employees, stopped using the FEVS and switched to an alternate survey tool. As the largest federal nonmilitary employer, the VA could provide significant data for the research, so a survey year prior to its transition to the new tool had to be selected. Moreover, the U.S. OPM temporarily altered the FEVS in response to the COVID-19 pandemic by dropping many questions and adding additional ones related to COVID-19 and telework, so I wanted to select data from a pre-pandemic survey year. Therefore, I identified 2017 as the year that would provide the best comprehensive set of data for this study.

Preliminary analysis indicated each of the variables was suitable for a regression analysis. The final full model regressed influence predictors on a single dependent variable (DV) measured with the FEVS survey question "Are you considering leaving your organization within the next year, and if so, why?"

Measures

The number of items in FEVS indices changed as part of the multicollinearity reduction as described in Chapter 3. The original FEVS indices are presented now for general understanding.

The Employee Engagement Index (EEI) contains 15 Likert items that form three subscales: Leaders Lead (LL), Supervisor (S), and Intrinsic Work Experience (IWE). The LL subindex contains five items, such as "I have a high level of respect for my organization's senior leaders;" the S subindex also contains five items, one of which is "My supervisor treats me with respect." The IWE subindex contains five items as well; "My work gives me a feeling of personal accomplishment" is one example.

The New Inclusion Quotient (NEW IQ) index contains 20 items under the 5 subscales of Fairness (FAIR), Open (OPEN), Cooperative (COOP), Supportive (SUP), and Empowering (EMP). FAIR contains five items, such as "In my work unit, differences in performance are recognized in a meaningful way." Four items can be found under OPEN, such as "Creativity and innovation are rewarded." COOP includes two items, one of which is "Managers support collaboration across work units to accomplish work objectives," while SUP contains five items, such as "My supervisor supports my need to balance work and other life issues." Lastly, EMP contains four items, for example, "I feel encouraged to come up with new and better ways of doing things."

The Global Satisfaction Index (GSI) contains four items, one of which is "I would recommend my organization as a good place to work." The GSI is the only main scale without subscales.

The Human Capital Assessment and Accountability Framework (HCAAF) index contains 39 items under the 4 subscales of Leadership and Knowledge Management (LKM), Results-Oriented Performance Culture (ROPC), Talent Management (TM), and Job Satisfaction (JS). LKM contains 12 items, such as "Managers communicate the goals and priorities of the organization," and ROPC contains 13, including "I know how my work relates to the agency's goals and priorities." TM and JS each contain seven items, such as "My training needs are assessed" and "I like the kind of work I do," respectively. Additional details on the measures are available in Chapter 3 Table 3.4 and Appendices A and B. Chapter 3 Table 3.4 addresses the questions in the subindices after multicollinearity has been addressed. Appendices A lists the questions in FEVS, and Appendix B represent the original indices.

Significance of the Study

The existing research presents a considerable body of evidence on the significance of employee turnover intention. Intent to separate has been linked to factors such as employee engagement and employment satisfaction (Bryne, 2017; Sibiya, 2014). Certain FEVS subindices may be more closely related to employees' turnover intention than others. However, research that would determine that by examining the connections between all the FEVS subindices and turnover intent is lacking. The current study is intended to fill this gap in the literature by investigating the factors represented by the FEVS indices and subindices and their relationships with turnover intention. The results of this examination will inform the prioritization of factors considered in federal workforce planning.

Annual pay increases for the federal workforce have been below the rate of increase of the employment cost index for the past 10 years, as continuing constraints are placed on budgetary expansion. This salary issue, along with shifts in agency–mission priorities and

changes in public and political figures' perceptions of the status of federal employment, may negatively impact federal employee quit rates. This situation also contributes to the significance of this research.

As mentioned early and as noted by the Partnership for Public Service (2020) the number of departing employees has increased in most years since FY 2009 and entry-level employees have demonstrated among the highest attrition rates. Katz (2020) reported more than 60% of recent federal hires leave with two years. The high rates of separation among Senior Executive Service employees also indicate a potentially significant loss of institutional knowledge. These circumstances reemphasize the need for training and the need to examine hiring practices and other organizational leadership practices to improve retention; they also highlight the need to prepare managers with the necessary knowledge and tools so they can develop those practices to prevent unnecessary and undesired employee resignations.

Federal leaders who have confidence in the relevance and efficacy of their workforce planning function are likely to devote increased energy and resources to related tasks. On the other hand, their attention may be diverted from the issue of retention if elimination of duplicative programs and streamlining of government operations is the top priority (Mulvaney, 2017), which may leave them unprepared to address future turnover rate increases.

By examining the relationships between turnover intention and the factors that predict intent to leave, this study will inform federal workforce planning efforts with the aim of increasing confidence in and resources applied to those efforts, thereby preventing unexpected and serious federal workforce changes that can imperil the public's safety and well-being. This research will also inform researchers who use intent as a substitute for turnover.

An additional aspect of the significance of this study is its contribution to the field of federal management. Private sector and FEVS research have explored the impact of employee empowerment on turnover intention. The literature indicates a strong relationship between employee engagement and job satisfaction, with both being predictive of such intent. Inclusive practices, effective management, and workplace satisfaction have been shown to reduce turnover intention. This study confirms the existing research and adds knowledge regarding the relationship between FEVS indices and determining the overall predictive ability of the indices on turnover intention. Moreover, this study is intended to fill gaps in the literature, such as knowledge on how HCAAF subindices impact intent to leave and on the role of FEVS indices and their relationships related to impacting intent. It is explanatory in nature and examines the general impact of the indices on intent to leave after controlling for important demographic factors.

Boundaries

The motivations and composition of the federal workforce are fluid, influenced by a wide range of possible confounding factors. Federal employees may be influenced to seek employment elsewhere by a tightening civilian labor force and the relative availability of career advancement opportunities in the private sector. They may also be influenced to take such an action by perceptions of future government-wide or departmental prospects in terms of budget, mission importance, political sympathies, and continued relevance of existing skill sets. Variations in random personnel decisions may have an influence on larger numbers of employees. For example, the appointment of a younger person to a high-level career position may alter many older employees' attitudes toward their career advancement prospects. Alternatively, a large annual pay increase one year may result in increased net present values of

future retirement payouts based on “high-three” calculations, which is another factor that can influence turnover intent.

This study does not address separation due to conduct, poor performance, death, or absence without leave. Instead, the focus is limited to expressed turnover intention. Furthermore, this research does not extend beyond the federal civil service workforce, nor does it address the military, postal service, quasi-federal agencies, federal corporations, federal contractors, or non-appropriated-fund entities’ employees. Quasi federal agencies are those such as the U.S. Federal Reserve, Federal National Mortgage Association, and Fannie Mae that are required to report to the federal government but operate independently from its direct oversight.

Limitations of the Study

A limitation of this study is that the research by design used only FEVS indices distributed to managers in the federal government and did not encompass other indices created from and for FEVS data by other researchers. Moreover, the data that are made available to supervisors do not reflect any one individual’s responses to the FEVS survey. Also limiting this research was that only data on federal employees were examined, and the psychometric properties of each index have not been thoroughly examined, so extrapolation to nonfederal employees should be made with caution. Lastly, no data that links individual responses to the FEVS survey with an individual’s status regarding continued employment with the agency are included. Therefore, while the regression analysis addresses multiple explanations for intent to leave, the cross-sectional nature of the data does not support causal statements about the relationships between the variables analyzed. In Chapter 5, the limitations of the study including social desirability bias, common method bias, non-response patterns, reduction of sample size and demographics are described in greater detail.

Definition of Key Terms

Pub. L. 108–136, 5 U.S.C. 7101 requires the U.S. OPM to issue regulations prescribing questions that should appear on all agency surveys (Section 1128). These surveys ask federal employees to respond to multiple questions regarding their views about their workplace. The U.S. OPM also includes demographic questions on a range of issues, including the employee's intent to retire, to move to another federal agency, or to otherwise leave their employment. The U.S. OPM issues an annual survey titled the Federal Employee Viewpoint Survey (FEVS) and releases a public data file of the results as well. Various terms related to the FEVS are defined based on the questions that compose the index in the following paragraphs.

Employee Engagement Index (EEI): The EEI measures the extent to which the workplace environment is conducive to engagement. It contains three subindices: Leaders Lead (LL), Supervisors (S), and Intrinsic Work Experience (IWE).

Leaders Lead (LL): The LL subindex measures a leader's ability to motivate, demonstrate perceived honesty, communicate, and generate respect.

Supervisors (S): This index measures employees' perceptions of their supervisor's support for development, listening skills, and respect, as well as their perceptions of trust and confidence.

Intrinsic Work Experience (IWE): IWE measures encouragement to innovate, personal accomplishment, job expectations, and knowing how work relates to agency goals.

Global Satisfaction Index (GSI): GSI assesses employees' satisfaction with their job, pay, and organization, plus their willingness to recommend their organization as a good place to work.

New Inclusion Quotient (NEW IQ) Index: This index measures individual habit-forming behaviors that create an inclusive environment. It includes the subindices of fairness (FAIR), open (OPEN), cooperative (COOP), supportive (SUP), and empowering (EMP).

Fairness (FAIR): The subindex FAIR measures perceptions of fairness regarding performance, awards, and lack of arbitrary actions and prohibited personal actions, such as discrimination.

Open (OPEN): OPEN measures support for creativity and diversity.

Cooperative (COOP): The COOP subindex measures perceptions of managers' support for cross-unit collaboration.

Supportive (SUP): The SUP subindex measures employees' perceptions of the supervisor's support of work/life balance, performance improvement, listening, and respect.

Empowering (EMP): This subindex for the NEW IQ measures perceptions of communication, encouragement to innovate, use of talents, and feelings of personal empowerment.

Human Capital Assessment and Accountability Framework (HCAAF) Index: HCAAF measures strong human capital strategies. It includes the subindices of leadership and knowledge management (LKM), results-oriented performance culture (ROPC), job satisfaction (JS), and talent management (TM).

Leadership and Knowledge Management (LKM): This subindex measures perceptions of workload reasonableness, job safety, security, trust in supervisor, performance of supervisor, generation of motivation, working with people of different backgrounds, progress toward goals, and satisfaction with communication, policies, and practices.

Results-Oriented Performance Culture (ROPC): The ROPC subindex measures respondents' perceptions about knowing goals, physical conditions at work, performance appraisal fairness, cooperation, promotions, performance, creativity, innovation, pay, work/life balance, and recognition.

Talent Management (TM): TM measures perceptions about opportunities, talent usage, training needs assessment, recruitment, workforce skills and knowledge, support for development, and training.

Job Satisfaction (JS): The JS subindex for HCAAF measures employees' perceptions about personal accomplishment, liking and valuing work, involvement in decisions, and pay satisfaction.

Turnover Intention: Turnover intention evaluates whether an employee plans to leave the organization in the next year.

The indices and subindices are organized and presented in Table 1.4. The results related to the subindices in the 2017 FEVS are the focus of this study.

Table 1.4

Federal Employee Viewpoint Survey (2017 FEVS) Indices and Subindices

Indices	Subindices
Employee Engagement (EEI)	Leaders Lead (LL), Supervisors (S), Intrinsic Work Experience (IWE)
Global Satisfaction (GSI)	Global Satisfaction (GSI)
New Inclusion Quotient (NEW IQ)	Fairness (FAIR), Open (OPEN), Cooperative (COOP), Supportive (SUP), Empowering (EMP)
Human Capital Assessment and Accountability Framework (HCAAF)	Leadership and Knowledge Management (LKM), Results-Oriented Performance Culture (ROPC), Job Satisfaction (JS), Talent Management (TM)

Chapter Summary

The purpose of this study was to describe how turnover intent is impacted by factors represented in the FEVS indices. The correlations between intent to leave and the FEVS indices that impact intent constitute valuable information that leaders in any organization should be aware of and apply to their planning efforts. Federal leaders face many challenges in performing their duties related to workforce management. Clarifying the relevance of portions of the large amount of data available to them may improve their leadership performance or at least inform their leadership priorities. This research will assist in this regard by examining the correlations between intent to leave and the FEVS indices that impact turnover intent. Table 1.5 outlines the major items in the study.

Table 1.5

Summary of Current Study

Element	Summary
Purpose of the Study	The purpose of this study was to investigate how turnover intent is impacted by FEVS indices. The indices and subindices were examined, while controlling for education, gender, minority status, subagency, supervisory status and tenure, to determine their relationship with turnover intention.
Justification	By examining the relationships between intent to leave and the factors that impact intent, this study will inform federal workforce planning efforts with the aim of increasing leadership confidence in and resources applied to those efforts, facilitating the prevention of unexpected and serious federal workforce changes that can imperil the public's safety and well-being. In FY 2017, 46,429 NSFTP federal government employees resigned from their positions. These resignations are 2.5% of the overall government turnover rate of 6.4%.

Element	Summary
Methodology	This quantitative study involved the examination of the FEVS 2017 public data file containing 480,000 responses; the logistical regression analysis statistical technique was employed to examine these archival data.
Scope	FEVS data from 2017 pertain to the federal government employees who participated in the survey.
Theoretical Framework	Herzberg's Two Factor Theory was applied to investigate the ability of the index and subindex values to influence intent. The theory of reasoned action (Fishbein & Ajzen, 1975) addressed how beliefs, attitudes, and norms about an action influence the behavior.
Conceptual Model	FEVS data were conceptually linked to Herzberg's factors and Fishbein's reasoned action controls. Subindices and control variables relationships with turnover intention were demonstrated.
Limitations	Data represent 2017 federal government employees only. The nature of the data does not support causal statements, and the psychometric properties of each index have not been thoroughly examined.
Contributions to Field of Federal Management	The findings provide a better understanding of FEVS indices' ability to predict turnover intent and, therefore, a better understanding of how to plan for retention and turnover.
Contributions to Practice	Understanding the role of the FEVS indices and subindices in predicting turnover intent will increase the understanding of factors that influence the formation of turnover intent in federal employees. This understanding will be further enhanced by a more in-depth comprehension of the relationships between the FEVS indices and subindices and their impact on turnover intent.

Notes: FEVS = Federal Employee Viewpoint Survey; FY = Fiscal Year; NSFTP = Non-Seasonal, Full-Time, Permanent.

Organization of the Dissertation

This chapter provides a synopsis of the study and background information on the context in which FEVS indices are used and their impact on turnover intent. In Chapter 2, I review existing literature related to studies that examine the ability of the EEI, GSI, NEW IQ, and HCAAF indices and their subindices to predict turnover intent. The review concludes with a discussion on research issues, such as the relationships between FEVS indices and subindices. I further identify gaps in the knowledge that provide a source for continued study. In Chapter 3, I present the research methodology and explain the data collection and analysis procedures. In Chapter 4, I report the results of the study, followed in Chapter 5 by a discussion of the implications and limitations of the findings.

CHAPTER 2: REVIEW OF THE LITERATURE

This research seeks to fill a gap in the existing literature by more thoroughly explaining the relationships between turnover intent and the FEVS indices in the federal workforce. Which factors increase or decrease turnover intention? What other factors need to be controlled for when investigating this? Federal leaders will benefit from the results of this research by having a better understanding of the factors that are negatively related to turnover intention (for which data is available to them); indeed, identification of the FEVS factors that influence intent will inform them of what they can focus on to reduce turnover. This literature review identifies the knowledge gap created by the lack of research explaining FEVS indices and their relationship to turnover intention. For this literature review I focus on research that is associated with the FEVS indices and subindices as described in the definition of key terms in Chapter 1.

From a theoretical perspective, Herzberg's two-factor theory serves as a foundation for understanding turnover intent. The two-factor theory proposed by Herzberg (1959) is a foundational concept for understanding turnover intent, although some scholars question whether intent is testable (Gardner, 1977). The two-factor theory describes motivators and hygiene factors that, in combination, can predict intent to leave.

Herzberg's hygiene factors appear to be strongly related, both semantically and logically, to the FEVS subscales. More specifically, hygiene factors, such as pay and benefits, company policy, working conditions, and work/life balance, seem to be associated with the FAIR, OPEN, COOP, and GSI FEVS measures. Hygiene factors related to supervisor quality and job security appear to be related to the FEVS subindices of LL, S, SUP, and LKM.

Herzberg's motivational factors, or motivators, also appear to be related to FEVS indices as shown in Table 2.1. Motivators such as pay, achievement, promotion, growth, recognition, and responsibility appear to be related to the FEVS subindices of IWE, ROPC, TM, JS, and EMP.

Table 2.1

Subindices Relationship with Herzberg Two Factor Theory

Subindices	Herzberg Relationship	Motivational And Hygiene Factors
IWE	Motivation	Responsibility
ROPC	Motivation	Pay, Working Conditions, Growth, and Recognition
TM	Motivation	Recognition, Working Conditions and Company Policy
JS	Motivation	Pay, Achievement, Promotion, Growth, Recognition, and Responsibility
EMP	Motivation	Responsibility, Growth, and Recognition
FAIR	Hygiene Factors	Pay and Benefits, Company Policy, Working Conditions, and Job Security
OPEN	Hygiene Factors	Working Conditions
COOP	Hygiene Factors	Working Conditions
SUP	Hygiene Factors	Supervisor Quality, Working Conditions, and Work/Life Balance
LL	Hygiene Factors	Supervisor Quality
S	Hygiene Factors	Supervisor Quality
LKM	Hygiene Factors	Supervisor Quality and Working Conditions
GSI	Hygiene Factors	Pay and Benefits, Company Policy, Working Conditions, and Work/Life Balance

IWE = Intrinsic Work Experience; ROPC = Results-Oriented Performance Culture; TM = Talent Management; JS = Job Satisfaction; EMP = Empowering; FAIR = Fairness; OPEN = Openness; COOP = Cooperation; SUP = Supportive; LL = Leaders Lead; S = Supervisors; LKM = Leadership and Knowledge Management; GSI = Global Satisfaction Index.

Theory of Reasoned Action (Fishbein & Ajzen, 1975) describes our feelings, thoughts and intentions as being associated with prior experiences and the influence of subjective norms and normative beliefs such as how we feel significant others will view us. These concepts are captured in this study with the control variables of Subagency, Gender, Education, Tenure, Supervisory Status and Minority Status. I feel these correspond to TRA as they identify different

types of experiences that these controls are associated with. A white male, VA employee, with a bachelor's degree, in a non-supervisory status with less than 10 years of tenure will have a separate set of experiences than individuals in other categories.

Literature Review

Government service employees have different motivators than private sector employees, as demonstrated by the results of recent research that indicated intrinsic motivation in employment is positively correlated with government service (Moltz, 2019); therefore, results of this research should be extrapolated to the private sector with caution.

This research is timely, evidenced by the numerous articles about the "Great Resignation" of 2021 that have been published recently (Avitzur, 2021; Cook, 2021; Ghandi & Robison, 2021; Hopkins & Figaro, 2021). Ghandi and Robison (2021) described the "Great Resignation" as resulting from discontent and reported that 48% of working Americans were watching for new employment opportunities or are actively seeking them, which the researchers found was related to decreased employee engagement.

Fernandez et al. (2015) conducted a review of FEVS research, considering 42 peer-reviewed research articles from 2006 through 2014 reporting on studies based on FEVS data. Their review identified four studies that demonstrated a positive relationship between employee empowerment and performance, while they documented others that revealed turnover to have a negative relationship with innovativeness (two articles), job satisfaction (five articles), organizational commitment (two articles), and job involvement (one article). The researchers found that job satisfaction and turnover intention represent two sufficiently different attitudes toward work that can be measured on a single survey. Fernandez and colleagues (2015) pointed to the use of aggregate data at the subagency or agency level as possibly resulting in a significant

loss of information that can lead to "overlooking important micro-level associations" (p. 4); they further noted that data at the individual level would illustrate how perceptions of leadership, relationships with immediate supervisors, and supervisory leadership skills are related on an individual level to outcomes like turnover intention, job satisfaction, and performance. This study examines the full data set including the individual level data.

Age, education, and diversity were also found to influence turnover intention among Centers for Disease Control and Prevention employees (Leider et al., 2016). Younger, more educated, and more diverse staff were found to have higher levels of turnover intent. They proposed that high intention-to-leave rate could "prove difficult to [the implementation of] workforce development efforts" (Leider et al., 2016, p. 10).

Overview of Turnover Intent Factors

In this study, turnover intention predictors are investigated based on FEVS subindices. As noted previously, myriad research has been conducted that aligns directly with various FEVS subindices and related factors, such as relationships (Bertelli, 2007; Pitts et al., 2011), family friendly programs (Caillier, 2016), job satisfaction (Fernandez et al., 2015; Lambert et al., 2001; Leider et al., 2016), pay satisfaction (Chan & Ao, 2019), inclusive practices (Sabharwal et al., 2018), workplace satisfaction (Pitts et al., 2011), employee engagement (Bryne, 2017; Sibiya, 2014), employee empowerment (Fernandez et al., 2015), and a mismatch between individual skill level and skills used in the job (Hur & Hawley, 2019). A positive relationship between supervisor and employee decreases employee turnover (Bertelli, 2007).

FEVS Indices

FEVS indices that have been proven useful for understanding turnover intent include the following: job involvement (Fernandez et al., 2015), leadership and performance (Lee, 2018),

innovativeness (Fernandez et al., 2015), and organizational commitment (Fernandez et al., 2015). Additionally, inclusion in the form of open, fair, supportive, cooperative, and empowering environments has been found to reduce turnover intentions (Sabharwal et al., 2018). FEVS indices and subindices are shown again in Table 2.1 for reference, along with the research associated with the indices as discussed in the next section of this chapter, with a focus on research that is specific to subindices. Table 2.2, at the end of this chapter, describes major works that influenced this research.

Table 2.2

FEVS Indices and Associated Literature

Index	Subindices	Author/Date
EEI		Byrne et al., 2017; Kim, 2017; Leider et al., 2016; Miller, 2018; Sibiya, 2014; McCarthy et al., 2020
	LL	Grissom, 2012; Lee, 2018
	S	Bertelli, 2007; Johnson, 2020; Moon & Park, 2019; Wang & Brower 2019 Kim, 2014
	IWE	Grissom, 2012; Pitts et al., 2011
GSI		Chan & Ao, 2019; Ertas, 2015; Griffeth et al., 2000; Lambert et al., 2001; Leider et al., 2016; Pitts et al., 2011; Rubenstein et al., 2018
NEW IQ		Sabharwal et al., 2018; Ertas, 2015
	FAIR	Choi, 2013; Ertas, 2015; Sabharwal et al., 2018; Ertas, 2015
	OPEN	Sabharwal et al., 2018; Ertas, 2015
	COOP	Sabharwal et al., 2018; Ertas, 2015
	SUP	Sabharwal et al., 2018; Ertas, 2015
	EMP	Sabharwal et al., 2018; Sibiya, 2014; Ertas, 2015; Fernandez & Moldogaziev, 2013; Kim & Fernandez, 2017
HCAAF		Liggans et all 2019; Vandenabeele & Hondeghem, 2008; Choi, 2013; Leider et al., 2016
	LKM	Kim & Ko, 2014; Lee. 2020; Asencio & Mujkic, 2016
	ROPC	Fu et al 2019; Kang et all 2021; Zimmerman, 2009
	TM	Wang & Brower 2019; Kang et al., 2021; Hur & Hawley, 2019
	JS	Chan & Ao, 2019; Ertas, 2015; Griffeth et al., 2000; Johnson, 2020; Lambert et al., 2001; Leider et al., 2016; Pitts et al., 2011; Rubenstein et al., 2018; Wang, 2019

Notes: FEVS = Federal Employee Viewpoint Survey; EEI = Employee Engagement Index; LL = Leaders Lead; S = Supervisors; COOP = Cooperative; IWE = Intrinsic Work Experience; GSI = Global Satisfaction Index; NEW IQ = New Inclusion Quotient; FAIR = Fairness; OPEN = Openness; COOP = Cooperative; SUP = Supportive; EMP = Empowering; HCAAF = Human Capital Assessment and Accountability Framework; LKM = Leadership and Knowledge Management; ROPC = Results-Oriented Performance Culture; TM = Talent Management; JS = Job Satisfaction .

Employee Engagement Index (EEI)

The EEI measures the degree to which an environment is conducive to engagement. As research has shown, employee engagement appears to reduce turnover intention. The FEVS EEI consists of 15 items grouped into 3 subindices: Leaders Lead (LL) (5 items), Supervisor (S) (5 items), and Intrinsic Work Experience (IWE) (5 items) as described further in Appendix B and C. The multicollinearity resolved modified subindices used in this research are listed in Chapter 3. Byrne et al. (2017) found employee engagement to be negatively related to turnover intentions. Their study findings also indicated job resources were related to employee engagement and intent to leave. Byrne and colleagues (2017) drew a second sample of respondents and evaluated the EEI relative to the job engagement scale, which is an academically derived measure of engagement, and confirmed the alignment of the EEI with engagement predictors used in academia and private industry. Byrne et al. (2017) did not consider the impact of the FEVS scales on turnover intent or the relationships between other FEVS scales and the EEI. Miller (2018) also reported a negative relationship between employee engagement and turnover intent. Other indices that were created from the FEVS data sample but are not included as part of the FEVS report that managers receive were transformational leadership, job-specific resources,

psychological meaningfulness, and social desirability. Employees with higher engagement levels are less likely to report an intention to leave their jobs (McCarthy et al., 2020)

These considerations led to my first hypothesis that the EEI and its subindices (LL, S, IWE) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

Employee engagement, age, tenure, and race (Sibiya, 2014) were found to be related to turnover intentions in the telecommunications field in South Africa. An engagement scale and intention to stay scale were measured, along with demographics, which revealed employee engagement to be negatively related to intention and revealed that age and tenure also were negatively related to turnover. Sibiya (2014) additionally discovered race and qualifications had a positive relationship with turnover intention.

Leaders Lead (LL)

The LL subindex of the EEI also has support in the literature as being predictive of intent to leave. Leadership is linked to organizational performance in FEVS data (Lee, 2018). Moreover, a strong interactive relationship between effective managers and turnover was demonstrated in nonfederal workers (Grissom, 2012).

Supervisor (S)

The Supervisor subindex of the EEI has been found to decrease turnover intentions in literature. A positive relationship between supervisor and employee was found to decrease employee turnover (Bertelli, 2007). Research has also demonstrated that job satisfaction, perceptions of supervisors, and work/life balance were interconnected and that having an employee having strong positive relationship with their supervisors was related to high levels of

job satisfaction (Johnson, 2020). Leadership styles have also been shown to influence turnover behavior (Moon & Park 2019).

Intrinsic Work Experience (IWE)

The IWE subindex of the EEI has been found to decrease turnover intentions. Pitts et al. (2011) identified workplace satisfaction as having a major influence on turnover intention. These researchers also highlighted demographic variables and organizational and relationship factors as important predictors. For example, they indicated that age increased turnover intentions in employees in lower age brackets, while the opposite was true for their colleagues in higher age brackets (Pitts et al., 2011).

Global Satisfaction (GSI)

Global Satisfaction appears intertwined in research with Job Satisfaction (JS). GSI is therefore included in the section that follows on JS.

New Inclusion Quotient (NEW IQ)

The NEW IQ index measures individual habit-forming behaviors that create an inclusive environment. The NEW IQ consists of 20 items under the 5 subscales of Fairness (FAIR) (5 items), Openness (OPEN) (4 items), Cooperation (COOP) (2 items), Supervisor (S) (5 items), and Empowering (EMP) (4 items). Inclusive practices represented by these five subscales, when controlled for minority status, supervisory role, and tenure, were found to reduce turnover intentions for heterosexuals in a study of lesbian, gay, bisexual, and transgender federal employees (Sabharwal et al., 2018).

Fairness (FAIR)

The NEW IQ subindex FAIR was found to be of interest in minority studies. Demographic variables and the three organizational contextual factors of perceived fairness,

diversity climate, and supervisory support moderated the relationship between managerial demographic diversity and job satisfaction; the demographic variables of gender, minority, age, tenure, location, and supervisory status and the contextual factors of diversity climate, perceived fairness, and supervisory support were positively associated with employee job satisfaction (Choi, 2013). Conversely, the proportion of women and minorities in managerial positions was found to be negatively related to the sample population employees' job satisfaction (Choi, 2013), yet racial/ethnic minorities were more satisfied with their jobs and organizations when higher levels of diversity existed. Fairness was found to decrease turnover intention in a FEVS comparison of millennial and non- millennial generations (Ertas, 2015) Fairness was also found to decrease turnover intention in LGBT and Non-LGBT employees in FEVS data (Sabharwal et al., 2018).

Openness (OPEN)

Increasing openness to creativity and innovation was significant in reducing turnover intention in millennial and non-millennial generations (Ertas, 2015) and for all employees (Sabharwal et al., 2018).

Cooperative (COOP)

Increasing cooperativeness in the work group was found to decrease turnover intention (Ertas, 2015). Increasing cooperativeness for LGBT employees increased turnover intention and decreased turnover intention for heterosexual employees (Sabharwal et al., 2018).

Supportive (SUP)

A supportive environment has been found to be non-significant when examining millennials (Ertas, 2015) and to decrease turnover intention for all employees (Sabharwal et al., 2018).

Empowerment (EMP)

Increasing empowerment was significant in decreased turnover intention in millennial and non-millennial generations (Ertas, 2015) and for all employees (Sabharwal et al., 2018). Employee empowerment also impacts performance job satisfaction and innovativeness (Fernandez & Moldogaziev, 2013)

In a study documented in their 2017 publication, Sun Young Kim and Sergio Fernandez tested a model for measuring employee empowerment using data from the 2011 U.S. OPM FEVS. They found that their model correlated with lower rates of expressed intent to leave. Moreover, they uncovered that the effect of employee empowerment on the likelihood of intention to leave to obtain employment at another federal agency was greater than on the likelihood of intention to leave the federal government to retire. Sibiya (2014) demonstrated that employee engagement, age, tenure, and race were related to turnover intentions in the telecommunications field in South Africa.

This literature led to the second hypothesis that the NEW IQ and its subindices (FAIR, OPEN, COOP, SUP, EMP) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

Human Capital Assessment and Accountability Framework Index (HCAAF)

The HCAAF index as it relates to this study appears to have received the least amount of scholarly attention. The HCAAF index consists of 39 items under the 4 subscales of LKM (12 items), ROPC (13 items), TM (7 items), and JS (7 items). In a comparative study it is noted "there is little knowledge about the practice of measuring the performance of HRM in government, especially on a governmentwide basis" (Vandenabeele & Hondeghem, 2008).

The literature provides some evidence that leadership support impacts intent to leave and that job satisfaction has a substantial impact on such intentions (Choi, 2013; Leider et al., 2016). Human resource practices have also been found to be related to organizational inclusion, organizational commitment, and trust in leadership in a study of veterans and non-veterans (Liggans et al., 2019). Thus, I hypothesized that the HCAAF index and its subindices will be negatively linked to federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.)

Leadership and Knowledge Management (LKM)

Leadership and Knowledge Management as a FEVS index has had limited research as it relates to turnover intention. Leadership has been shown to make significant differences in the motivational effect of performance management (Lee. 2020)

Human capital practices have positive influences on knowledge sharing behavior (Kim & Ko, 2014). These same human capital practices make employees feel valued by their organizations and are related to increased trust in their supervisor. Transformational Leadership has also been found to build trust in organizations (Asencio & Mujkic, 2016). Human resource practices and trust in supervisor have been found to increase knowledge sharing practices for improved organizational performance (Kim and Ko, 2014).

Results Oriented Performance Culture (ROPC)

Results Oriented Performance Culture and perceived organizational performance has been shown to be an important factor that influences employees' attitudes and behaviors such as retention and turnover (Kang et all 2021). In examining perceived organizational performance, it was found that performance-oriented culture, organizational satisfaction, organizational procedural justice, task-oriented leadership, work security and safety, and employees'

commitment to their agency were significant (Kang et all 2021). Performance management strategies have also been shown to influence employee cooperation (Fu, 2019).

Talent Management (TM)

Talent Management research demonstrates that having perceived compatibilities between federal employees and their jobs, work group, and supervisors improve job satisfaction (Wang & Brower 2019). Talent utilization was also found to be a significant predictor of turnover intention using machine learning and FEVS data (Kang et al., 2021). The highest ranked predictor was job satisfaction, followed by organizational satisfaction, loyalty, personal accomplishment, involvement in decisions, meaningfulness to the job, promotion and advancement opportunity, skill development opportunity, organizational tenure, satisfaction with information from management, merit-based promotion, talent utilization, pay satisfaction, leadership development opportunity, and employee development. They also used a receiver Operating Characteristics Curve and area under the curve in their analysis.

Job Satisfaction (JS) and Global Satisfaction (GSI)

Job satisfaction and motivation have been well studied using the foundations of the Two-Factor Theory (Herzberg, 1959). Herzberg described hygiene factors and motivational factors, such as interesting work, challenge, and increasing responsibility (Herzberg, 2003), as requirements for motivation. In a nonfederal government employee study, job satisfaction was found to have the largest direct effect on turnover intent (Lambert et al., 2001); tenure had the second largest impact, while age had a negative relationship. According to the study findings, factors that impacted job satisfaction were task variety, coworker relations, financial rewards, and age; tenure was shown to have a negative relationship with job satisfaction. The findings further indicated that males reported lower levels of job satisfaction than females. Education did

not impact job satisfaction, and gender and education did not significantly impact intent to leave (Lambert et al., 2001). In another study, Chan and Ao (2019) revealed that pay satisfaction was the greatest influencer of job satisfaction, turnover intention, and organizational commitment in casino workers.

Ertas (2015) constructed fairness, skill development, creativity, work/life balance, work group, meaningfulness, diversity, job satisfaction, and pay satisfaction scales and found significant results for all but diversity and work/life balance when considering differences in predictors of turnover intent for millennials and non-millennials. Results demonstrated that job satisfaction, pay satisfaction, creativity, professional development, promotion based on merit, and having a good work group impacted the turnover intentions of federal employees of all ages.

Job satisfaction predictors found in 2014 FEVS data included pay satisfaction, organizational support, and employee involvement (Leider et al., 2016). In the same examination of those data, employees who were satisfied with their jobs had lower intent to leave rates than those who demonstrated pay satisfaction, organizational support, and employee engagement. Women and employees over 50 were less likely to report intent to leave, while younger, diverse, and more educated employees demonstrated increased rates of such intent. Rubenstein et al. (2018) and Griffeth et al. (2000) also found job satisfaction to be an important predictor of intent to leave.

Workplace satisfaction has a major influence on turnover intention, according to Pitts et al. (2011). They pointed to certain demographic variables and organizational and relationship factors as important predictors of turnover intention and reported that younger employees demonstrated increased rates of turnover intention compared to their older counterparts. Job satisfaction using a modified FEVS job satisfaction scale (Wang, 2019) was found to increase

when the employee indicates a match between their abilities and talents, experiences a sense of personal accomplishment, and has opportunities for skill improvement. Job satisfaction (Wang, 2019) was also shown to be related to interpersonal compatibilities between team members and supervisors. Wang (2019) described using control variables as useful, reporting that the controls of physical conditions, gender (male), age, and minority status have a positive relationship with job satisfaction, while supervisory status, years of service, education, and disability have a negative relationship with job satisfaction.

Evidence has demonstrated that job satisfaction, perceptions of supervisors, and work/life balance were interconnected (Johnson, 2020): a strong positive relationship was revealed between employees' perceptions of their supervisors and their levels of job satisfaction, between employees' perceptions of their supervisors and their work/life balance, and between employees' work/life balance and their level of job satisfaction. Evidence also exists supporting a positive relationship between employee perceptions of their own high-performance levels and job satisfaction (Park, 2017).

Job satisfaction has also been linked to interactional justice and procedural justice (Dufour, 2020), which was indicated in the findings of a study on its relationship with organizational justice, ethics, gender equity, and interpersonal treatment in proposal management professionals that examined data not related to FEVS. Another study demonstrated that increased job satisfaction can reduce turnover intentions in salespersons (Pettijohn, 2008). All variables described need to be understood in relation to the demographic variables.

This research led to the fourth hypothesis that the GSI will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

In summary, there is significant research indicating individual FEVS related indices and subindices are associated with changes in turnover intention. There is a lack of research examining all the subindices relationship with turnover intention.

Demographic Variables

The control variables of subagency, gender, education, tenure, supervisory status, and minority status are directly related to the Theory of Reasoned Action. Numerous studies have revealed the impact of demographic factors on turnover intent. For example, according to the sources subsequently noted, turnover intent is impacted by age (Ertas, 2015; Lambert et al., 2001; Pitts et al., 2011; Sibiya, 2014), gender (Choi, 2013; Lambert et al., 2001; Leider et al., 2016; Wang, 2019), minority status (Choi, 2013; Sabharwal et al., 2018; Sibiya, 2014; Wang, 2019), tenure (Lambert et al., 2001; Sabharwal et al., 2018; Sibiya, 2014; Wang, 2019), and supervisory role (Sabharwal et al., 2018; Wang, 2019).

A higher proportion of women and racial/ethnic minorities in managerial positions has been found to be negatively related to employees' overall job satisfaction levels (Choi, 2013), but racial/ethnic minorities are more satisfied with their job and organization when higher levels of diversity exist. Moreover, the presence of women supervisors has been linked to a possible decrease in the rate of women quitting federal government jobs in science, technology, engineering, and mathematics occupations (Brown & Kellough, 2019). Choi (2013) further found that demographic variables moderate the relationship between managerial demographic diversity and job satisfaction, as do the three organizational contextual factors of perceived fairness, diversity climate, and supervisory support. Gender, minority status, age, tenure, location, and supervisory status (demographic variables) and diversity climate, perceived

fairness, and supervisory support (contextual factors) were positively associated with employee job satisfaction (Choi, 2013).

In "So Hard to Say Goodbye? Turnover Intention Among U.S. Federal Employees," Pitts et al. (2011) identified demographic factors, workplace satisfaction factors, and organizational/relational factors as important predictors of intent to leave. According to these researchers, workplace satisfaction was found to have a major influence on turnover intention (Pitts et al., 2011). The authors further reported that younger employees had increased rates of turnover intention, while older employees had lower rates of intention to leave. This finding is not surprising, as younger employees may be more likely to seek a good career fit and are typically more flexible about changing employment, whereas older employees are more likely to be eligible for an age-based retirement system, such as social security.

Ertas's work (2015) confirmed that age was important to understanding turnover intent. She reported that millennials had significantly higher rates of intent to leave and that job and pay satisfaction impacted all federal workers, regardless of age. Older employees had a stronger tie to personal gratification with meaningfulness of work, while millennials had a stronger tie to support from supervisors and work/life balance, according to Ertas. Finally, the author found that job satisfaction was the most important predictor of turnover intent. One way to approach age in such research is to use categories like millennials, baby boomers, and the culture associated with each. The start date, end date, and terms of age categories are "not an exact science," (Dimock, 2019) they are determined by consensus.

Relationship Between Intent and Turnover

Since this research investigates turnover intent, an examination of the relationship between turnover intent and the actual behavior of turnover is necessary. Rubenstein et al. (2018)

conducted a meta-analysis in which they examined 316 articles published between 1975 and 2016. They found withdrawal cognitions, such as intent to leave, have the strongest correlation with actual turnover. Their study specifically analyzed actual turnover data in primarily nonfederal employee research. They found significant effects for employee age, education, gender, job satisfaction levels, organizational commitment, tenure, and stress levels. They also reported a negative relationship between individual age and turnover and a nonsignificant relationship between education and turnover that became significantly more negative in samples in which the mean education level was higher. Satisfaction and commitment were moderators and were significant and negative. The authors suggested that in organizations in which employees are more satisfied and committed, turnover relationships are even stronger. Longer tenure and higher pay typically keep employees in their jobs, but according to the findings reported for this study, higher performers, longer tenured employees, and higher paid employees may be more likely to quit instead when others around them have higher rates of intent to leave.

Intent and behavior are seen as separate constructs (Fishbain & Ajzen, 1975) but are also viewed as related; indeed, according to Fishbain and Ajzen, "intentions serve as the primary determinants of behavior" (p. 511). The literature reports mixed results with some indicating a relationship exists (Caillier, 2018; Griffeth et al., 2000) and others that no relationship exists between intent and turnover (Cohen et al., 2015; Dollar & Broach, 2006), providing evidence that further research is needed in this area.

In a 2011 paper entitled "Turnover Intention and Turnover Behavior: Implications for Retaining Federal Employees," Cho and Lewis tested how well turnover intention predicts behavior using both a 1% sample of the U.S. OPM's central personnel data file drawn from 1999 through 2007 and the results of the 2005 Merit Principles Survey conducted by the Merit

Systems Protection Board. They found a correlation between turnover intention and behavior but noted demographic factors may impact the relationship. They also reported that a strong relationship existed between tenure and turnover intent and behavior: employees with 7 years' experience or less and those with over 30 years' experience were more likely to change employment than those with between 7 and 30 years of experience. Cho and Lewis (2011) also reported education and minority status as factors that may have a significant impact on the relationship between intent and turnover. These researchers indicated that high educational levels (doctorates and professional degree holders) and low levels (high school or less) in an early career stage equated to high turnover rates for employees falling into those categories, while the effects of education on employees in mid-career were negative. In later career stages, education had a strong negative correlation with turnover. The researchers asserted that the role of other factors in relation to intent and turnover also changed depending upon the person's career stage. Career stage within this study relates to tenure, as measured by fewer than 10 years, between 10 and 20 years, and more than 20 years employed by the government. Tenure and education being two of the control variables that are being used to examine Fishbein's Theory of Reasoned Action.

Cohen et al. (2015) evaluated 2010 FEVS turnover intention and Fedscope 2011 turnover rates using agency aggregate data. They found the variables that influence both turnover intention and turnover rate were average tenure and the agency's employees' satisfaction with pay, telecommuting, and workload. Moreover, they considered the controls of age, tenure, and gender important in the examination of intent versus turnover. Further, the percentage of female and the percentage of nonwhite minorities, as well as the percentage of agency professional/administrative demographic variables, were also considered. Other agency

aggregate variables inspected were workload satisfaction, opportunity satisfaction, pay satisfaction, work schedule satisfaction, and percentage of employees who telecommute (Cohen et al., 2015).

A meta-analysis (Griffeth et al., 2000) of nonfederal employee research revealed that job satisfaction, organizational commitment, involvement in job searches, comparison of alternatives, withdrawal cognitions, and quit intentions acted as predictors of turnover, along with the demographics of tenure and number of children. Intent to quit in nonfederal workers was also found to be influenced by job dissatisfaction, lack of commitment, and stress (Firth et al., 2004).

This accumulation of research identifying contributing factors to turnover intent is examined in the current research. Instead of examining individual FEVS indices this research will examine all FEVS subindices to examine Herzberg's Two Factor theory and five controls to examine Fishbein's Theory of Reasoned Action.

Critical Analysis

FEVS indices that represent factors that potentially can influence intent to leave have not been adequately investigated, as research appears to have been focused on individual indices and on developing new indices. Thus, a gap in the literature exists in explaining both the relationships of current FEVS indices and turnover intent and the relationships between the indices. In addition, demographic factors (gender, education, and tenure) have not been fully studied to determine their impact on the relationship between turnover intent and the factors addressed within the FEVS indices. The existing research that addresses FEVS-related indices generally includes the indices or topics that are of interest to the research study and do not consider the relationships of the indices or whether the variability is more strongly supported by

a different index. In other words, a thorough evaluation of the relationships between the indices as they relate to turnover intent does not appear to exist in the literature. Multicollinearity in the indices was a major issue that had to be addressed, as demonstrated in Table 3.4 and in Appendix D. Multicollinearity is a linear relationship between two or more of the independent variables. Having multicollinearity limits the statistical techniques that can be used as well as making attributions of the variances difficult. Multicollinearity reduction involved removal of questions that appeared in multiple indices, as well as removing questions from indices based on their high correlations. Outliers were also removed to make subindices suitable for further analysis. Major indices were found to be too strongly related to use for analysis. This will be addressed in detail in Chapter 3.

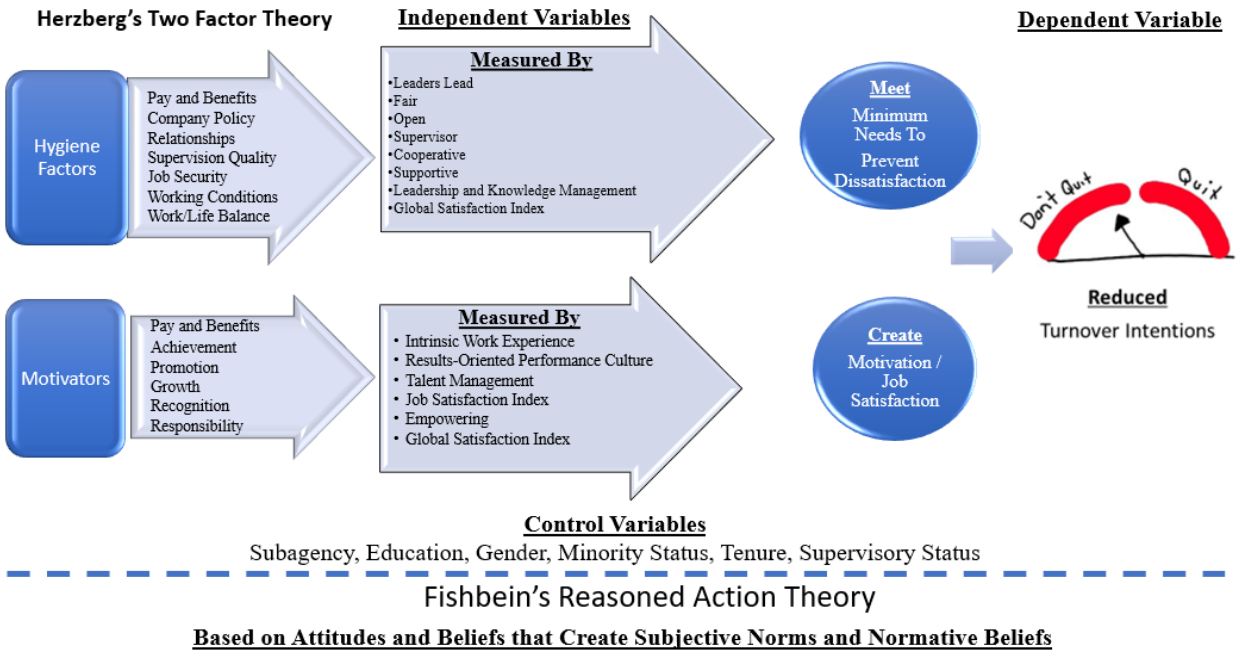
The research question and hypotheses that emerged from prior research suggest that, as the employees' positive perceptions of the FEVS indices increase, turnover intentions should decrease. As the lower order needs for hygiene are met, attention can be redirected to the higher order needs, which, once met, can create motivation, resulting in both general satisfaction and job satisfaction, both of which are associated with lower levels of intent to leave in the literature. These conjectures led to the conceptual framework depicted in Figure 2.1. An additional conceptual model is provided as Appendix E with additional details. This conceptual framework combines Herzberg's two-factor theory and Fishbein's TRA with FEVS measures.

Herzberg's Two Factor Theory addresses perceptions by the employee of hygiene and motivational factors. The perceived presence or absence of these factors then influence an employee's intention for or against turnover. These perceptions and expectations of the current conditions are determined in this research framework by Fishbein's Theory of Reasoned Action. The employees' perceptions of turnover intention are based upon their experiences and their

understanding of how others will view them for taking the action. Their perceptions of whether a hygiene or motivation factor are absent, or present is also determined by their expectations. Expectations are determined based on the employees' prior experiences.

Figure 2.1

Conceptual Framework for Research Question and Hypotheses



Research Question and Hypotheses

RQ: What are the predictors of intent to leave federal government employment based on the Federal Employee Viewpoint Survey (FEVS) indices while controlling for education, gender, minority status, subagency, supervisory status, and tenure?

H1: The Employee Engagement Index (EEI) as measured by its subindices will be negatively related to turnover intention while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H1A: The Leaders Lead subindex (LL) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H1B: The Supervisors subindex (S) will be negatively related to federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H1C: The Intrinsic Work Experience subindex (IWE) will be negatively linked with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H2: The New Inclusion Quotient (NEW IQ) as measured by its subindices will be negatively related to turnover intention while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H2A: The Fairness subindex (FAIR) will be negatively connected to federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H2B: The Open subindex (OPEN) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H2C: The Cooperative subindex (COOP) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H2D: The Supportive subindex (SUP) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H2E: The Empowering subindex (EMP) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H3: The Global Satisfaction Index (GSI) will be negatively related to turnover intention while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H4: The Human Capital Assessment and Accountability Framework index (HCAAF) as measured by its subindices will be negatively related to turnover intention while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H4A: The Leadership and Knowledge Management subindex (LKM) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H4B: The Results-Oriented Performance Culture subindex (ROPC) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H4C: The Job Satisfaction subindex (JS) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H4D: The Talent Management subindex (TMI) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

Chapter Summary

The literature appears to contain contradictory results regarding relationships between intent to leave and the factors measured by the FEVS indices, but those relationships do appear to be strongly influenced by demographic factors. However, the research related to FEVS indices as presented and as outlined in Table 2.2 has not systematically evaluated the indices to determine their relationship to turnover intent. Table 2.3 lists the major works influencing this research, including topics not directly covered by this research.

Table 2.3

Major Works That Influenced Current Study

Author(s)	Date	Research Area	Research Contribution
Fernandez et al.	2015	Meta-Analysis	Employee empowerment is positively related to performance; innovativeness, job satisfaction, organizational commitment, and job involvement are negatively related to turnover.
Rubenstein et al.	2018	Meta-Analysis	Intent to leave is strongly related to turnover; significant effects for employee age, education, gender, job satisfaction, organizational commitment, tenure, and stress level.
Griffeth et al.	2000	Meta-Analysis, Global Satisfaction	Organizational commitment, involvement in job searches, comparison of alternatives, withdrawal cognitions, and quit intentions identified as predictors of turnover.
Byrne et al.	2017	Employee Engagement index	Job resources are directly related to employee engagement and turnover intent.
Fishbein & Ajzen	1975	Behavior	Theory of Reasoned Action

Author(s)	Date	Research Area	Research Contribution
Grissom	2012	Leadership	Effective management reduces turnover intent.
Herzberg	1959	Motivation	Two Factor Theory of Motivation
Pitts et al.	2011	Workplace Satisfaction	Workplace satisfaction and demographic variables influences turnover intent.
Sabharwal et al.	2018	New Inclusion Quotient	Inclusive practices (open, fair, supportive, cooperative, and empowering environments) reduce turnover intentions.
Sibiya	2014	Engagement	Employee engagement, age, tenure, and race are related to turnover intentions
Kim & Fernandez	2017	Employee Empowerment	Employee empowerment reduces turnover intent.
Lambert et al.	2001	Job Satisfaction	Job satisfaction has the largest impact on turnover intention.
Leider et al.	2016	Human Capital Assessment and Accountability Framework Index Job Satisfaction	Human Capital Assessment and Accountability Framework Index and Job satisfaction is influenced by pay satisfaction, organizational support, and employee involvement.
McCarthy et al.	2020	Engagement	Employees with higher engagement levels are less likely to report an intention to leave their jobs
Lee	2018	Leadership	Leadership is linked to organizational performance in FEVS data
Bertelli	2007	Supervision	A positive relationship between supervisor and employee was found to decrease employee turnover
Johnson,	2020	Supervision	Positive relationship with their supervisors was related to high levels of job satisfaction
Moon & Park	2019	Supervision	Leadership styles have also been shown to influence turnover behavior

Author(s)	Date	Research Area	Research Contribution
Ertas,	2015	New IQ Subindices	Inclusive practices (open, fair, supportive, cooperative, and empowering environments) reduce turnover intentions
Vandenabeele & Hondeghem	2008	Human Capital Systems	Little research about measuring performance of human resource management systems
Liggans et al	2019	Human resource practices	Human resource practices related to organizational inclusion, organizational commitment, and trust in leadership

CHAPTER 3: RESEARCH METHODOLOGY

This chapter focuses on the research methodology used in this study, which was designed to determine which FEVS indices are related to turnover intention. This chapter is divided into seven sections: research question and hypotheses, research design, data collection, participants, instrumentation and variables, data analysis, and summary. Important details about multicollinearity and assessment of reliability and validity are provided in this chapter.

Research Question and Hypotheses

RQ: What are the predictors of intent to leave federal government employment based on the Federal Employee Viewpoint Survey (FEVS) indices while controlling for education, gender, minority status, subagency, supervisory status, and tenure?

What FEVS indices and subindices predict turnover intent? The four main FEVS indices of interest are Employee Engagement (EEI), New Inclusion Quotient (NEW IQ), Global Satisfaction (GSI), and Human Capital Assessment and Accountability Framework (HCAAF). These main indices are being evaluated by means of their subindices as described in the following hypotheses. All subindices of these indices were considered to give federal managers who are concerned with turnover intent empirical evidence that identifies the FEVS subindex data to which they should give priority attention.

H1: The Employee Engagement Index (EEI) and its subindices will be negatively associated with federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H1A: The Leaders Lead subindex (LL) of the Employee Engagement Index (EEI) will be negatively associated with federal government employees' intent to leave their current

organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H1B: The Supervisors subindex (S) of the Employee Engagement Index (EEI) will be negatively related to federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H1C: The Intrinsic Work Experience subindex (IWE) of the Employee Engagement Index (EEI) will be negatively linked with federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H2: The New inclusion quotient (NEW IQ) and its subindices will be negatively associated with federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H2A: The Fairness subindex (FAIR) of the new inclusion quotient index (NEW IQ) will be negatively connected to federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H2B: The Open subindex (OPEN) of the new inclusion quotient index (NEW IQ) will be negatively associated with federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H2C: The Cooperative subindex (COOP) of the new inclusion quotient index (NEW IQ) will be negatively related to federal government employees' intent to leave their current

organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H2D: The Supportive subindex (SUP) of the new inclusion quotient index (NEW IQ) will be negatively associated with federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H2E: The Empowering subindex (EMP) of the new inclusion quotient index NEW IQ) will be negatively coupled with federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H3: The Global Satisfaction Index (GSI) will be negatively associated with federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H4: The Human Capital Assessment and Accountability Framework index (HCAAF) and its subindices will be negatively linked to federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H4A: The Leadership and Knowledge Management subindex (LKM) of the human capital assessment and accountability framework index (HCAAF) will be negatively associated with federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H4B: The Results-Oriented Performance Culture subindex (ROPC) of the human capital assessment and accountability framework index (HCAAF) will be negatively linked with federal

government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H4C: The Job Satisfaction subindex (JS) of the human capital assessment and accountability framework index (HCAAF) will be negatively associated with federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

H4D: The Talent Management subindex (TMI) of the human capital assessment and accountability framework index (HCAAF) will be negatively related to federal government employees' intent to leave their current organization while controlling for subagency, education, gender, minority status, tenure, and supervisory status.

Research Design

This research reflects an explanatory research design. Explanatory research seeks to increase understanding of a given topic by asking "why" questions and seeks to ascertain if hypotheses are accurate in order to guide future research (Sheppard, 2019). This research was intended to reveal any relationships that exist between FEVS subindices and turnover intention. It was not intended to investigate causation but to examine whether turnover intentions decrease in relation to increases reflected in the FEVS indices data, or phrased another way, whether turnover intention is related to the FEVS index scores. The relationship is probabilistic, not deterministic: an association exists between the indices and turnover intention, but high scores on the indices do not guarantee a decrease in turnover intention. For example, an employee may be miserable but is sticking it out in their position until retirement, or a very satisfied employee may take a new job to be with a spouse in a different city.

Data Collection

The U.S. OPM collected the 2017 FEVS data through a self-administered and self-reported web-based survey from May 2, 2017, to June 22, 2017 (OPM, 2017b). The FEVS is sent to the target audience electronically; to increase participation (or response rate), nonrespondents are prompted to complete and submit the survey by follow-up emails sent weekly during the survey period and by email messages from some agency leaders encouraging them to respond.

Completed surveys that included responses for fewer than 21 of the first 78 non-demographic variables were considered incomplete (OPM, 2017b). The 2017 sampling was conducted using a graduated proportional sampling plan, with work units of fewer than 10 participants rolled up in the larger organization.

Data are made publicly available, with demographic data cells (education, gender minority status, tenure, and supervisory status) reflecting fewer than 10 respondents masked with an "X." Masking is used to maximize the available data while protecting participants' anonymity. Work units with fewer than 300 respondents are included in a larger parent work unit's data in the public data release. Additional details on this process can be found in the FEVS technical report (OPM, 2017b).

In addition to the core data items collected by the FEVS, individual agencies added from zero to nine additional questions on agency-specific issues, the data for which are not made available in the public release and are not included in this research. These additional questions and their results are only reported to the individual agencies to do with as they will. From personal experience as a federal employee, some agencies are quite active with evaluating and using FEVS data, but others are not.

Ethical Procedures

FEVS demographic data are not reported for subunit sizes of fewer than 10 for any specific demographic variable to protect participants' identities. Participants who have participated in the data collection are not at risk, and all participants will benefit by gaining a greater understanding of existing data.

Study Participants

Population and Sampling

The FEVS is sent to approximately one million employees annually and has had varied response rates, ranging from a low of 40.6% in 2018 to a high of 49.7% in 2015. The response rate was 45.5% for 2017. The total sample size for the 2017 FEVS was 1,139,882 employees. The 2017 sample size was reported by the U.S. OPM (2017b) as 95% representative of the total federal workforce, plus or minus 1%. The 2017 sample size was larger than samples from previous FEVS survey years because a census survey was conducted in more agencies in 2017. FEVS data include a weighting variable to improve the aggregate accuracy of the agency-level composition. When the focus of the research is at the subunit agency level, the agency population level weighting variable is not included.

Sampling Method

The FEVS sample for 2017 was representative of the federal employee workforce. Appendix F of the government wide FEVS report provides additional details on demographics that are not available in the public data file, such as work location, race, national origin, age group, generational group, pay category, agency tenure, retirement plans, sexual orientation, military service, disability status, and agency size. This study considered the variables of education, gender, minority status, subagency, supervisory status, and tenure, which are available

in the public data set. After removal of outliers and participants who answered "other" to the DV "turnover intention," this study measured the following demographic values.

Gender

Of the 435,040 respondents, 184,773 (42.5%) reported their gender as male, 173,794 (39.9%) reported their gender as female, and 76,473 (17.6%) did not answer.

Supervisory Status

A total of 298,476 (68.6%) of the 435,040 respondents reported their supervisory status as non-supervisor, 68,149 (15.7%) reported their status as supervisor, and 68,415 (15.7%) did not answer.

Federal Tenure (excluding military service)

A federal tenure of 10 years or less was reported by 162,171 (37.3%) of the 435,040 respondents, while 100,638 (23.1%) reported their federal tenure to be between 10 and 20 years, and 98,887 (22.7%) reported having worked for the federal government for over 20 years; 73,344 (16.9%) did not answer.

Education

Of the 435,040 respondents, 99,330 (22.8%) reported their highest degree as less than a bachelor's degree, 121,913 (28%) indicated that a bachelor's degree was the highest degree they had earned, 137,027 (31.5%) reported their highest degree as beyond a bachelor's degree, and 76,770 (17.6%) did not answer.

Minority Status

Minority status was coded for 112,643 (25.9%) of the 435,040 respondents, while nonminority status was assigned to 239,543 (55.1%); 82,854 (19%) did not answer the related questions. Additional information about the FEVS demographics is included in Appendix F.

Instrumentation and Variables

The FEVS contains 98 items that include 14 demographic variables. Items are grouped into eight areas (personal work experiences, leadership, work unit, satisfaction, agency, work and life programs, supervisor, demographics) and four major indices (EEI, GSI, NEW IQ, and HCAAF). Appendix A presents the FEVS public release data file codebook questions. Appendix B provides the survey questions for each index; they follow a five-point Likert scale format recorded in the survey as values 1, 2, 3, 4, 5, blank, or X for "do not know" or "no basis to judge."

Employee Engagement Index

The EEI contains 15 Likert items, forming 3 subscales**:** LL, S, and IWE. The LL subindex is associated with five items, such as "I have a high level of respect for my organization's senior leaders." The subindex S is also addressed in five items; one example is "My supervisor treats me with respect." IWE relates to five items as well, such as "My work gives me a feeling of personal accomplishment."

New Inclusion Quotient

The NEW IQ contains 20 Likert items in the 5 subscales of FAIR, OPEN, COOP, SUP, and EMP. FAIR is associated with five items, such as "In my work unit, differences in performance are recognized in a meaningful way," OPEN with four items, such as "Creativity and innovation are rewarded," and COOP with two items, one of which is "Managers support collaboration across work units to accomplish work objectives." SUP is measured through five items, one of which is "My supervisor supports my need to balance work and other life issues." Empowering is linked to four items, for example, "I feel encouraged to come up with new and better ways of doing things."

Global Satisfaction Index

The GSI contains four Likert items. “I would recommend my organization as a good place to work” is one item that falls under this index.

Human Capital Assessment and Accountability Framework

The HCAAF includes 39 Likert items in the 4 subscales of LKM, ROPC, TM, and JS. LKM is associated with 12 items, such as “Managers communicate the goals and priorities of the organization.” ROPC is assessed through 13 items, such as “I know how my work relates to the agency’s goals and priorities.” TM and JS each relates to 7 items, such as “My training needs are assessed” and “I like the kind of work I do,” respectively.

The measures used in this research were taken from the 2017 annual FEVS. FEVS data are distributed to agency leaders with seven summary scales generally matching seven areas of questions (personal work experiences, leadership, work unit, satisfaction, agency, work and life programs, supervisor) and the index scores. This research will examine all subindices for all agencies and subagencies.

Demographic Variables

Gender is self-reported in the FEVS and recorded as variable DSEX with “A” for males, “B” for females, or blank. Education level is self-reported and recorded as variable DEDUC with “A” for “less than a bachelor’s,” “B” for “bachelor’s degree,” “C” for “beyond a bachelor’s degree,” or blank. Tenure is captured as “A” for 10 years or fewer, “B” for tenure between 10 and 20 years, and “C” a tenure of more than 20 years. Minority status is self-reported and captured in the FEVS as DMINORITY with “A” for minority, “B” for nonminority, or blank.

Scales Used

The major indices and their relationships with the hypotheses are described in more detail in Table 3.1. Table 3.2 provides details about the relationships between the subindices and the hypotheses.

Table 3.1

Major FEVS Indices and Their Relationships with the Hypotheses for Current Study

Index Name	Description	Hypothesis	Measures
EEI	The EEI is a measure of the degree to which the environment is conducive to engagement.	H1	The EEI consists of 15 items grouped into 3 subindices: LL (5 items), S (5 items), and IWE (5 items).
NEW IQ	The NEW IQ index measures individual habit-forming behaviors that create an inclusive environment.	H2	The NEW IQ index consists of 20 items in the 5 subscales of FAIR (5 items), OPEN (4 items), COOP (2 items), SUP (5 items), and EMP (4 items).
GSI	The GSI assesses employees' satisfaction with their job, pay, and organization, plus their willingness to recommend their organization as a good place to work.	H3	The GSI is a single index consisting of four Likert scale questions about employees' satisfaction with their job, pay, and organization and their willingness to recommend their organization as a good place to work.
HCAAF	The HCAAF index measures strong human capital strategies to evaluate their success.	H4	The HCAAF index consists of 39 items in the 4 subscales of LKM (12 items), ROPC (13 items), TM (7 items), and JS (7 items).

Notes: COOP = Cooperative; EEI = Employee Engagement Index; EMP = Empowering; FEVS = Federal Employee Viewpoint Survey; GSI = Global Satisfaction Index; HCAAF = Human Capital Assessment and Accountability Framework; IWE = Intrinsic Work Experience; JS = Job Satisfaction; LKM = Leadership and Knowledge Management; LL = Leaders Lead; NEW IQ = New Inclusion Quotient; ROPC = Results-Oriented Performance Culture; S = Supervisors; SUP = Supportive; TM = Talent Management.

Table 3.2

FEVS Subindices Relationships with Hypotheses

Subindex Variable	Index Variable	# Of Items *	Hypothesis	Measures	Relationship with Herzberg
LL	EEI	5	H1	Employees' views of their leadership	Hygiene
S	EEI	5	H1	Employees' views of their supervisors	Hygiene
IWE	EEI	5	H1	Employees' views of their work	Motivator
FAIR	NEW IQ Index	5	H2	Performance, award, actions, discrimination, and fairness	Hygiene
OPEN	NEW IQ Index	4	H2	Diversity, creativity, and innovation	Hygiene
COOP	NEW IQ Index	2	H2	Communication and cooperation	Hygiene
SUP	NEW IQ Index	5	H2	Work/life balance, constructive feedback, supervisor listens, respects performance	Hygiene
EMP	NEW IQ Index	4	H2	Enough information, encouraged to improve, talents well-used, personally empowered	Motivator
GS	GSI	4	H3	Satisfaction with job, pay, and organization and would they recommend their organization	Hygiene and Motivation
LKM	HCAAF Index	12	H4	Leadership and management factors	Hygiene
ROPC	HCAAF Index	13	H4	Environmental and performance-based factors	Hygiene
TM	HCAAF Index	7	H4	Employee development factors	Motivation
JS	HCAAF Index	7	H4	Satisfaction with work, job, and pay	Hygiene

Notes: COOP = Cooperative; EEI = Employee Engagement Index; EMP = Empowering; FEVS = Federal Employee Viewpoint Survey; GSI = Global Satisfaction Index; HCAAF = Human Capital Assessment and Accountability Framework; IWE = Intrinsic Work Experience; JS = Job Satisfaction; LKM = Leadership and Knowledge Management; LL = Leaders Lead; NEW IQ = New Inclusion Quotient; ROPC = Results-Oriented Performance Culture; S = Supervisors; SUP = Supportive; TM = Talent Management.
These are the number of items in the original FEVS indexes see Table 3.4 for items in final indices.

The hypotheses evolved from the literature and from the goal of developing a better understanding of the nature of the FEVS indices' relationships with turnover intention. Three different scales were used in the FEVS, each of which contained five ratings: scale one ranged from "strongly disagree" (1) to "strongly agree" (5), scale two spanned "very dissatisfied" (1) to "very satisfied" (5), and scale three encompassed from "very poor" (1) to "very good" (5). Some items also included an additional response option of "do not know" or "no basis to judge." Additional details about survey indices and subindices with questions, items, and scales can be found in Appendix B and C.

In addition, some FEVS items were associated with two (or in one case, three) indices. This interdependence of data benefited from a multicollinearity assessment. Table 3.3 identifies areas where collinearity was an issue of concern.

Table 3.3

Collinearity Within the Established FEVS Indices and Subindices

Question Text	Question Number	Index 1	Index 2	Index 3
I feel encouraged to come up with new and better ways of doing things.	3	NEW IQ/EMP	EEI/IWE	
My work gives me a feeling of personal accomplishment.	4	EEI/IWE	HCAAF/JS	NEW IQ /EMP

Question Text	Question Number	Index 1	Index 2	Index 3
My talents are used well in the workplace.	11	HCAAF/TM	EEI/IWE	
I know how my work relates to the agency's goals and priorities.	12	HCAAF/ROPC	EEI/IWE	
In my work unit, steps are taken to deal with a poor performer who cannot or will not improve.	23	HCAAF/ROPC	NEW IQ/FAIR	
In my work unit, differences in performance are recognized in a meaningful way.	24	HCAAF/ROPC	NEW IQ/FAIR	
Employees have a feeling of personal empowerment with respect to work processes.	30	HCAAF/ROPC	NEW IQ/EMP	
Creativity and innovation are rewarded.	32	HCAAF/ROPC	NEW IQ/Open	
My supervisor supports my need to balance work and other life issues.	42	HCAAF/ROPC	NEW IQ/SUP	
Supervisors in my work unit support employee development.	47	HCAAF/TM	EEI/S	
My supervisor treats me with respect.	49	NEW IQ/SUP	EEI/S	
Overall, how good of a job do you feel is being done by your immediate supervisor?	52	HCAAF/LKM	EEI/S	
Supervisors work well with employees of different backgrounds.	55	HCAAF/LKM	NEW IQ/OPEN	
Managers communicate the goals and priorities of the organization.	56	HCAAF/LKM	EEI/LL	
I have a high level of respect for my organization's senior leaders.	61	HCAAF/LKM	EEI/LL	

Question Text	Question Number	Index 1	Index 2	Index 3
Considering everything, how satisfied are you with your job?	69	HCAAF/JS	GSI	
Considering everything, how satisfied are you with your pay?	70	HCAAF/JS	GSI	

Notes: COOP = Cooperative; EEI = Employee Engagement Index; EMP = Empowering; FEVS = Federal Employee Viewpoint Survey; GSI = Global Satisfaction Index; HCAAF = Human Capital Assessment and Accountability Framework; IWE = Intrinsic Work Experience; JS = Job Satisfaction; LKM = Leadership and Knowledge Management; LL = Leaders Lead; NEW IQ = New Inclusion Quotient; ROPC = Results-Oriented Performance Culture; S = Supervisors; SUP = Supportive; TM = Talent Management.

Addressing Multicollinearity

Multicollinearity reduction involved multiple steps. First, I eliminated duplicate values where survey items appeared under more than one index. Second, I removed items that demonstrated a high degree of multicollinearity based on semantic determination of where the item best fit. As the third step, I excluded items that demonstrated multicollinearity and contributed little to regression. After completing these steps, I examined part and partial correlations but found no suppression effects.

Tables 3.4 and 3.5 show the subindices and the questions that remained relevant to them after the collinearity issues were addressed. Additional details on the reduction process are provided in Appendix D.

Table 3.4

FEVS Index Questions Remaining in Final Scales for Current Study

Subindices		Survey Questions	Questions in Final Subindices
Leaders Lead	LL	Q53, Q54, Q56, Q60, Q61	Q60, Q61
Supervisors	S	Q47, Q48, Q49, Q51, Q52	Q47, Q52
Intrinsic Work Experience	IWE	Q3, Q4, Q6, Q11, Q12	Q4, Q6
Fairness	FAIR	Q40, Q69, Q70, Q71	Q24, Q25, Q37, Q38
Openness	OPEN	Q32, Q34, Q45, Q55	Q34, Q45, Q55
Cooperative	COOP	Q58, Q59	Q58
Supportive	SUP	Q42, Q46, Q48, Q49, Q50	Q42, Q50
Empowering	EMP	Q2, Q3, Q11, Q30	Q2, Q3, Q30
Leadership and Knowledge Management	LKM	Q10, Q35, Q36, Q51, Q52, Q53, Q55, Q56, Q57, Q61, Q64, Q66	Q10, Q35, Q36, Q64
Results-Oriented Performance Culture	ROPC	Q12, Q14, Q15, Q20, Q22, Q23, Q24, Q30, Q32, Q33, Q42, Q44, Q65	Q12, Q14, Q20, Q32, Q33
Talent Management	TM	Q1, Q11, Q18, Q21, Q29, Q47, Q68	Q21, Q29, Q68
Job Satisfaction	JS	Q4, Q5, Q13, Q63, Q67, Q69, Q70	Q5, Q13, Q63, Q67, Q69
Global Satisfaction Index	GSI	Q40, Q69, Q70, Q71	Q40, Q70, Q71

Note: FEVS = Federal Employee Viewpoint Survey. All variables listed are being treated as scale measures and are independent variables.

During the process of eliminating multicollinearity, the subindices became less robust with fewer questions for each index. Following this process, one index was left with one question, four subindices with two questions, and eight subindices with three or more questions. While the reduced number of questions per index is not ideal it should still provide valid results (Sullivan & Artino, 2013)

Table 3.5 *FEVS Questions in Final Subscales for Current Study*

FEVS Questions in Final Subscales for Current Study

Subindices	Herzberg Relationship	Questions
LL	Hygiene	60. Overall, how good a job do you feel is being done by the manager directly above your immediate supervisor? 61. I have a high level of respect for my organization's senior leaders.
S	Hygiene	47. Supervisors in my work unit support employee development. 52. Overall, how good a job do you feel is being done by your immediate supervisor?
IWE	Motivator	4. My work gives me a feeling of personal accomplishment. 6. I know what is expected of me on the job.
FAIR	Hygiene	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. 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.

Subindices	Herzberg Relationship	Questions
OPEN	Hygiene	34. Policies and programs promote diversity in the workplace (for example, recruiting minorities and women, training in awareness of diversity issues, mentoring). 45. My supervisor is committed to a workforce representative of all segments of society. 55. Supervisors work well with employees of different backgrounds.
COOP	Hygiene	58. Managers promote communication among different work units (for example, about projects, goals, needed resources).
SUP	Hygiene	42. My supervisor supports my need to balance work and other life issues. 50. In the last six months, my supervisor has talked with me about my performance.
EMP	Motivator	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. 30. Employees have a feeling of personal empowerment with respect to work processes.
LKM	Hygiene	10. My workload is reasonable. 35. Employees are protected from health and safety hazards on the job. 36. My organization has prepared employees for potential security threats. 64. How satisfied are you with the information you receive from management on what's going on in your organization?
ROPC	Hygiene	12. I know how my work relates to the agency's goals and priorities. 14. Physical conditions (for example, noise level, temperature, lighting, cleanliness in the workplace) allow employees to perform their jobs well. 20. The people I work with cooperate to get the job done. 32. Creativity and innovation are rewarded. 33. Pay raises depend on how well employees perform their jobs.
TM	Motivator	21. My work unit is able to recruit people with the right skills. 29. The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals. 68. How satisfied are you with the training you receive for your present job?

Subindices	Herzberg Relationship	Questions
JS	Motivator	5. I like the kind of work I do. 13. The work I do is important. 63. How satisfied are you with your involvement in decisions that affect your work? 67. How satisfied are you with your opportunity to get a better job in your organization? 69. Considering everything, how satisfied are you with your job?
GSI	Hygiene	40. I would recommend my organization as a good place to work. 70. Considering everything, how satisfied are you with your pay? 71. Considering everything, how satisfied are you with your organization?

Notes: LL = Leaders Lead; S = Supervisors; IWE = Intrinsic Work Experience; FAIR = Fairness; OPEN = Openness; SUP = Supportive; EMP = Empowering; LKM = Leadership and Knowledge Management; ROPC = Results-Oriented Performance Culture; TM = Talent Management; JS = Job Satisfaction; GSI = Global Satisfaction Index.

Additional Data Preparation

I conducted additional data preparation on the turnover intent DV dependent variable in this research. Intent to leave data, indicated through five possible options, were released as part of the public data set. The five possible participant responses to the question "Are you considering leaving your organization within the next year, and if so, why?" were coded as A for "No," B for "Yes, to take another federal job," C for "Yes, to take a job outside the federal government," D for "other," and blank for no answer. The "other" category included "Yes, to retire" as a result of the U.S. OPM's FEVS data collapsing. Intent to leave in this research is defined as answering "Yes, to take another federal job" or "Yes, to take a job outside the federal government." Employees leaving the agency for nongovernment employment or for another

government position both are seen as having some potential level of discontent with their current position. “Yes, to retire,” “other,” and blank do not address the central question of this research regarding intent and were, therefore, removed from consideration. This action and the removal of outliers changed the sample size from its original 486,105 to a total of 435,040. The sample weights provided by the U.S. OPM in the public data release were not used because FEVS did not provide detailed information on how they were developed (Fernandez et al., 2015), which precluded using them at a subagency level.

FEVS Data Cleaning and Recoding by U.S. Office of Personnel Management

Prior to publicly releasing the 2017 FEVS data, the U.S. OPM performed data cleaning that included collapsing variables, removing partial responses, and disclosure avoidance procedures.

The OPM collapsed the following items prior to releasing the public data set: 1) education level (Education) was collapsed into bachelor’s, above bachelor’s, and below bachelor’s; 2) federal tenure (Tenure) was collapsed into 0–10 years, 10–20 years, and 20 plus years; 3) Supervisory status was collapsed into “non-supervisor” and “supervisor”; 4) minority status (Minority) was collapsed into nonminority and minority; and 5) planning to leave (Intent) was collapsed by merging “Yes, to retire” with the “Yes, other” category.

Partial responses were marked as incomplete if the respondent did not complete 25% of the 84 non-demographic questions (21 of 84 items). The OPM did not include incomplete responses in the public data file.

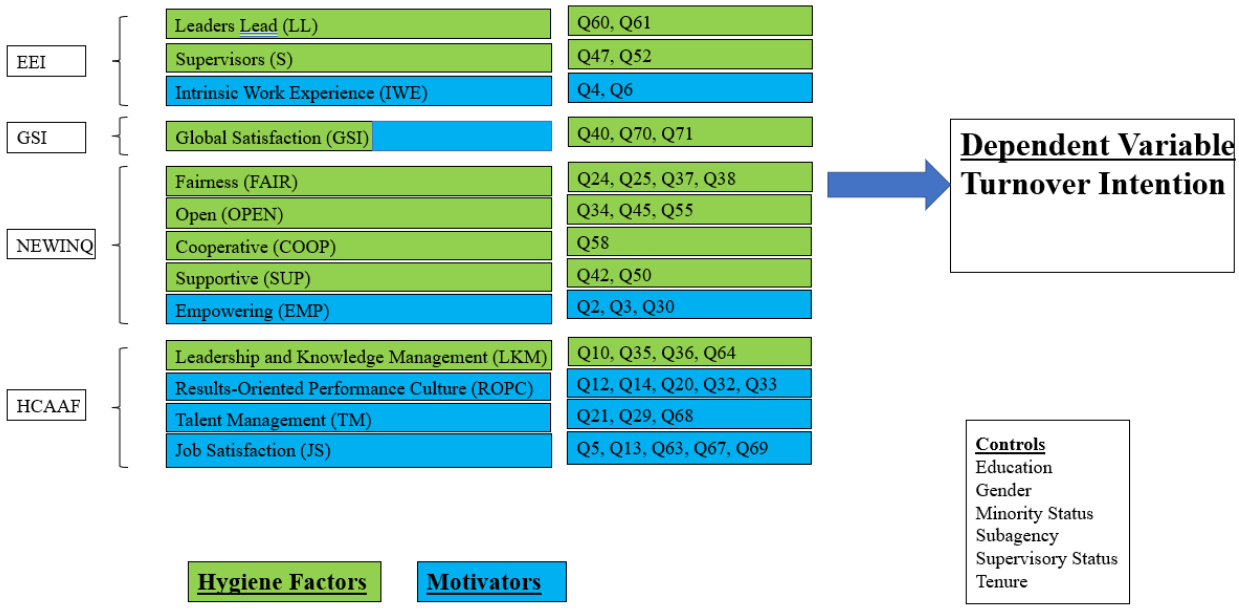
Disclosure avoidance occurred at the subagency level and at the demographic level. At the subagency level, any agency with fewer than 300 responses were included with the higher-level agency results in the public data release. At the demographic cell level, demographic data

cells (comprising gender, education, minority status, supervisory status) reflecting fewer than 10 respondents were masked with an X or dummy value. The OPM (2017b) FEVS technical report provides additional details on the methods used to carry out these functions.

An analysis process beginning with an assessment of the data's fitness for a logistic regression, followed by carrying out a logistic regression, was designed to determine predictive associations in the indices related to turnover intent. In the first phase of the fitness for logistic regression analysis, multicollinearity was addressed. Figure 3.1 describes the measurement model used.

Figure 3.1

Measurement Model of Current Study



The variables used in this study are summarized in Table 3.6. The DV (intent) is dichotomous. The IVs are scale measures (indices and subindices). The control variables are categorical (education, gender, minority status, subagency, supervisory status, and tenure). Major indices and their relationships to the hypotheses, functions, levels of measure, SPSS description,

and subindices are presented in Table 3.6 as an aid to understanding their relationships. Each major index contains one to four subindices that are created using a series of individual Likert questions. The four main indices and 13 subindex variables are further discussed in the results section.

Table 3.6

Summary of Variables Used in Current Study

Variable Name	Hypothesis	Variable Function	Level of Measure	SPSS Description	Subindices
Employee Engagement Index (EEI)	H1	Major Index	Scale	EEI	(LL), (S), (IWE)
New Inclusion Quotient (NEW IQ)	H2	Major Index	Scale	NEW IQ	(FAIR), (OPEN), (COOP), (SUP), and (EMP)
Global Satisfaction Index (GSI)	H3	Major Index	Scale	GSI	(GSI)
Human Capital Assessment & Accountability Framework (HCAAF)	H4	Major Index	Scale	HCAAF	(LKM), (ROPC), (JS), and (TM)

Notes: COOP = Cooperative; EEI = Employee Engagement Index; EMP = Empowering; FEVS = Federal Employee Viewpoint Survey; GSI = Global Satisfaction Index; HCAAF = Human Capital Assessment and Accountability Framework; IWE = Intrinsic Work Experience; JS = Job Satisfaction; LKM = Leadership and Knowledge Management; LL = Leaders Lead; NEW IQ = New Inclusion Quotient; ROPC = Results-Oriented Performance Culture; S = Supervisors; SUP = Supportive; TM = Talent Management.

Institutional Review Board Approval

This study's survey required approval by the Hood College Institutional Review Board (IRB). The Hood College IRB reviewed the survey without prior involvement. I received

approval to proceed using secondary data sources in February 2021. Documentation related to the IRB process and informed consent are included in Appendix G.

Data Analysis

I used binomial logistic regression analysis as a statistical technique to examine the FEVS archival survey data. Logistic regression was appropriate because it assesses the probability that a case in the FEVS will fall into the dichotomous DV of turnover intent (Laird Statistics, 2017), which is measured by "Yes, I intend to leave in the next year," or "No, I do not intend to leave in the next year." Logistic regression can be used to test the predictive power of independent variables (IVs) and to evaluate the contributions of each individual variable (Pallant, 2016); it also serves as a goodness of fit measure that describes the adequacy of the model, a summary of the classification of the cases, and an odds ratio. Moreover, logistic regression provides specificity and sensitivity values based on the accuracy of the classifications (Pallant, 2016). For the current study, logistic regression allowed me to assess how well the predictor variables explained the turnover intent DV.

Data were evaluated for normalcy and distribution prior to inclusion. Additionally, before analyzing the detailed statistics, the descriptive statistics were examined for appropriateness. The FEVS data distributed in the public data set and the data reported in the U.S. OPM data cube are presumed to be accurate. The Statistical Package for Social Sciences (SPSS) version 26 software was used to calculate the binary logistic regression and factor analysis.

Multicollinearity was a major issue to address, as described in Appendix D. A multicollinearity assessment was conducted to identify and modify indices to reduce multicollinearity below 0.7, as necessary. Missing values were addressed using the pairwise option.

Regression analysis was necessary to determine the relationship between turnover intent and index variables while controlling for education, gender, minority status, subagency, supervisory status, and tenure. I focused on the *p* (sig) value, Wald statistic, odds ratio, and Nagelkerke R^2 for this research.

A Bonferroni correction method will be applied to the p values that result from the regression analysis. A Bonferroni correction adjusts a study's p values when there are multiple statistical tests being conducted that would increase the risk of making a type 1 error (Armstrong, 2014). Although this method is considered as too conservative, especially given this study's large sample size, it seemed appropriate considering the 16 hypotheses that were tested (Perneger, 1998). In addition, I wanted the most conservative approach to statistical prediction.

Reliability and Validity

Cronbach's alpha was used to test the indices for internal consistency (Table 3.7). All Cronbach's alpha subscale values were above .7, as recommended (Laird Statistics, 2015a). FEVS data are self-reported and assumed to accurately reflect the attitudes of the federal workforce on an individual level. Cronbach's alpha was reported as being used by 86.7% of researchers who used FEVS data (Somers, 2018). In the descriptive statistics section of Chapter 4, an apparent pattern of no response is mentioned, which suggests that some participants may not trust the anonymity of the survey, which can negatively impact the survey's reliability.

Table 3.7

Cronbach's Alpha

Subscale	Cronbach's Alpha Based on Standardized Items
LL	0.807
S	0.832
IWE	0.713
FAIR	0.870
OPEN	0.792
SUP	0.701
EMP	0.814
LKM	0.724
ROPC	0.748
TM	0.731
JS	0.823
GSI	0.779

Notes: LL = Leaders Lead; S = Supervisors; IWE = Intrinsic Work Experience; FAIR = Fairness; OPEN = Openness; SUP = Supportive; EMP = Empowering; LKM = Leadership and Knowledge Management; ROPC = Results-Oriented Performance Culture; TM = Talent Management; JS = Job Satisfaction; GSI = Global Satisfaction Index. .

FEVS data are robust with a very large sample size; moreover, the survey has been repeatedly conducted for many years. From 2002 to 2008 OPM administered the Federal Human Capital survey biannually. OPM has annually administered the FEVS since 2010. I evaluated FEVS modified subindices with Cronbach's alpha. However, other psychoanalytical analyses to confirm validation were not conducted. Reliability of the scales, as measured by Cronbach's alpha, should also assist in improving validity. Construct Validity has apparent face and content validity (Maruyama & Ryan, 2014). Validity is also supported by using a principal component analysis.

Internal validity is limited because the archival data were collected cross-sectionally which violates an assumption of temporal sequence to make causal statements. In addition, the non-experimental design makes the study unable to address spuriousness. While some control variables are included, this is not an exhaustive list of alternative explanations for the dependent variable. This constraint and the assessment tool (logistic regression) do not support causal relationships between the IDs and the DV.

The external validity is also limited because the survey is only administered with federal government employees and, thus, may not be generalizable to nongovernment employees. Cross-sectional data were used in this research and the data were reported by the U.S. OPM to match within 1% the federal workforce (OPM, 2017b).

This study used statistics that were chosen appropriately, and the sample size was robust and more than adequate statistically. Therefore, conclusion validity is expected to be appropriate.

Limitations

A limitation of this research is that it reflects the viewpoints of federal employees only; thus, extrapolation to nonfederal employees should be made with caution. Moreover, this research did not address the military, postal service, quasi-federal agencies, federal corporations, federal contractors, or non-appropriated-fund entities' employees.

A second limitation of this research is the data are not directly linked to individual responses on the FEVS and an individual's employment status with the agency. This limitation is reflective of the data available to supervisors, as they do not receive data related to any one individual's responses to the survey.

As an additional limitation, cross-sectional data prohibit making definite claims regarding causality. However, the inclusion of several control variables adds to the strength of the

correlations found between the IVs and intent to leave. Lastly, this research, by design, only considered data for FEVS subindices that are distributed to employees in the federal government and did not address other subindices created from and for FEVS data by other researchers. Moreover, the psychometric properties of each index have not been thoroughly examined, and the focus of the study was limited to the expressed intent to leave federal employment for other employment.

Chapter Summary

This chapter presents the research methodology, question and resulting hypotheses. Research design, sampling, ethics (including risks and benefits to subjects), validity, reliability, FEVS instrument, and limitations are covered. The chapter concludes with a summary of the tests conducted. Chapter 4 presents the results of this study, and Chapter 5 presents a discussion on the findings and implications for future research.

The research plan was to conduct a multicollinearity assessment as a first step to determine the indices' fitness for a multiple logistic regression and then to employ a multiple regression to determine the predictive ability of the indices based on their relationships with the turnover intent DV. The survey question identified to measure intent to leave was "Are you considering leaving your organization within the next year, and if so, why?" Responses on the FEVS indicating "Yes, to take another job within the federal government," or "Yes, to take another job outside of the federal government," were considered positive for intent to leave, as reported in the U.S. OPM's FEVS public data file. "Yes, to retire," "other," and blank answers to this question do not address the central concern of this research regarding intent and, therefore, were removed from the study.

Logistical regression was performed to understand the relationship between the FEVS indices and intent while controlling for education, gender, minority status, subagency, supervisory status, and tenure. Factor analysis was then conducted on subindices that were in alignment with predictions.

Prior research and gaps in the knowledge supported development of the research question and hypotheses. While numerous studies have considered one or several of the FEVS subindices, little appears to have been done to examine all the indices collectively and their impact on turnover intention.

CHAPTER 4: QUANTITATIVE ANALYSIS

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108–136, 5 U.S.C. 7101) legally mandates the U.S. OPM to establish guidelines and questions for an employee satisfaction survey (FEVS) that each agency is required to administer. Government leaders and managers use the FEVS data as a barometer to measure how their agency is performing because it addresses many workforce topics, including employee satisfaction and turnover intention. The current study was undertaken to examine how the FEVS indices related to turnover intention. Evaluating Employee Engagement Index (EEI), Global Satisfaction Index (GSI), New Inclusion Quotient (NEW IQ), and Human Capital Assessment and Accountability Framework (HCAAF) through their subindices. The subindices of Leaders Lead (LL), Supervisor (S), and Intrinsic Work Experience (IWE), Fairness (FAIR), Open (OPEN), Cooperative (COOP), Supportive (SUP), Empowering (EMP), Leadership and Knowledge Management (LKM), Results-Oriented Performance Culture (ROPC), Talent Management (TM), Global Satisfaction Index (GSI), and Job Satisfaction (JS) are examined to determining their ability to influence federal government employees' intention to leave their organization. This study does so while keeping education, gender, minority status, subagency, supervisory status, and tenure as control variables. The research was intended to promote a better understanding of the relationship between the employee satisfaction variables and their impact on intent, which makes this research important to federal workforce managers.

As indicated previously, federal government employees earned $200,576 million in salaries and benefits in FY 2017 (ending September 30, 2017), which equals approximately 1% of the U.S. gross domestic product (Office of Management and Budget, 2017). In FY 2017, NSFTP federal government employees who resigned from their positions totaled 46,425, a

number that does not include retirements, reductions in workforce, terminations or removals, deaths, and other separations. Each of these resigning employees represents a loss of experience and productivity and a hiring gap of several months to a year, during which the position remains vacant. This period leaves the job responsibilities without an owner.

Overview

Chapter 4 is organized into eight sections: Summary of Methods; Data Eligibility for Binomial Logistic Regression; Final Variables Used in Current Study; Study Results; Binomial Logistic Regression Results; Hypothesis Testing; Additional Analysis; and Conclusion. The chapter opens with a brief summary of the methods followed by data preparation for analysis, which included addressing multicollinearity and other issues that posed reliability and validity challenges to the results. Then, the results and hypothesis testing are presented. Chapter 4 closes with a summary of the results and a conclusion. The research question is "What are the predictors of intent to leave federal government employment based on the Federal Employee Viewpoint Survey (FEVS) indices while controlling for education, gender, minority status, subagency, supervisory status, and tenure?" Hypothesis testing is shown in Table 4.1.

Table 4.1

Hypothesis Testing

Number	Hypotheses	Analytical Process	Variables
H1:	The Employee Engagement Index (EEI) and its subindices will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.	Logistic Regression	Intent, LL, S, IWE, education, gender, minority status, subagency, supervisory status, and tenure

Number	Hypotheses	Analytical Process	Variables
H2:	The New Inclusion Quotient index (NEW IQ) and its subindices will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.	Logistic Regression	Intent, FAIR, OPEN, COOP, SUP, EMP, education, gender, minority status, subagency, supervisory status, and tenure
H3:	The Global Satisfaction Index (GSI) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.	Logistic Regression	Intent, GSI, education, gender, minority status, subagency, supervisory status, and tenure
H4:	The Human Capital Assessment and Accountability Framework index (HCAAF) and its subindices will be negatively linked to federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure.	Logistic Regression	Intent, LKM, ROPC, JS, TM, education, gender, minority status, subagency, supervisory status, and tenure

Notes: COOP = Cooperative; EMP = Empowering; GSI = Global Satisfaction Index; HCAAF = Human Capital Assessment and Accountability Framework; IWE = Intrinsic Work Experience; JS = Job Satisfaction; LKM = Leadership and Knowledge Management; LL = Leaders Lead; ROPC = Results-Oriented Performance Culture; S = Supervisors; SUP = Supportive; TM = Talent Management.

Summary of Methods

I selected an explanatory research design that was nonexperimental in nature and analyzed a large existing data set related to U.S. federal government employees for this research. This research used the entire FEVS public release data set. As part of data cleanup, I applied a

series of procedures to reduce collinearity in the FEVS survey public data file, including removing questions that appeared in more than one scale and removing questions that were significantly multicollinear with other questions. Five categorical variables were reduced in detail in the public data file. For example, tenure was reduced from seven categories to three. These reductions are described in more detail in the multicollinearity section. Other data procedures included removing the "other" category from and combining the two "yes" categories in the determination of the DV. The frequencies, logistic regression, receiver operator characteristics (ROC) charts, and factor analysis are presented in this section. In addition, participant demographics and the results of the statistical tests are presented.

Data Eligibility for Binomial Logistic Multiple Regression

This section addresses how the current study met the data eligibility requirements for use of a multiple logistic regression as a means of analysis. The appropriateness of data for a multiple logistic regression is based on the assumption of having one DV that is dichotomous (Laird Statistics, 2017). The data included one or more IVs that were either at the continuous or categorical level of measurement. In addition to the assumption of the DV being dichotomous, a multiple logistic regression requires that several other assumptions be met, including the following: the independence of observations from the categories of the dichotomous variable, all categories within the variable are mutually exclusive and exhaustive, significant outliers are removed from the continuous variables, no multicollinearity exists across any of the variables, the relationship between the continuous predictors and the DV are linear, and the sample size is large with a minimum of 15 cases per IV (Stoltzfus, 2011).

Dichotomous Dependent Variable

The intent to leave, the DV considered in this study was binary: yes indicated "intend to leave" and no indicated "does not intend to leave." Analysis of the responses revealed that 77.8% of the valid cases responded in the negative, and 22.2% responded in the affirmative.

Independence of Observations

Independence of observations means no relationship exists between the observations in the DV categories or in the nominal IV categories. Also, no relationship is observed between the categories. The FEVS data are independent, as only one answer can be provided for each question, and each question is independent of every other question. Moreover, all categories of all variables were mutually exclusive.

Significant Outliers

Review of the frequency distributions did not reveal significant outliers. Outliers were found, however, during the process of addressing multicollinearity; they are addressed in the next section.

Addressing Multicollinearity

The continuous predictor variables were found to be independent of each other, evidenced by the absence of correlations higher than .8, as shown in Table 4.2.

Table 4.2

Correlations of FEVS Indices

		IWE	EMP	FAIR	SUP	S	OPEN	COOP	LL	ROPC	LKM	TM	JS	GSI
IWE	Pearson Correlation	--												
EMP	Pearson Correlation	.736**	--											
FAIR	Pearson Correlation	.561**	.699**	--										
SUP	Pearson Correlation	.500**	.559**	.571**	--									
S	Pearson Correlation	.556**	.648**	.663**	.780**	--								
OPEN	Pearson Correlation	.544**	.648**	.717**	.662**	.726**	--							
COOP	Pearson Correlation	.508**	.647**	.636**	.479**	.561**	.622**	--						
LL	Pearson Correlation	.531**	.653**	.648**	.479**	.570**	.606**	.676**	--					
ROPC	Pearson Correlation	.635**	.760**	.753**	.550**	.621**	.667**	.642**	.645**	--				
LKM	Pearson Correlation	.574**	.700**	.668**	.538**	.575**	.647**	.641**	.637**	.714**	--			
TMI	Pearson Correlation	.697**	.822**	.722**	.569**	.664**	.670**	.646**	.658**	.769**	.724**	--		
JS	Pearson Correlation	.759**	.753**	.660**	.541**	.622**	.627**	.613**	.652**	.726**	.664**	.778**	--	
GSI	Pearson Correlation	.624**	.712**	.675**	.524**	.592**	.621**	.602**	.676**	.721**	.690**	.743**	.778**	--

Notes: **Correlation is significant at the 0.01 level (2-tailed); COOP = Cooperative; EEI = Employee Engagement Index; EMP = Empowering; FEVS = Federal Employee Viewpoint Survey; GSI = Global Satisfaction Index; HCAAF = Human Capital Assessment and Accountability Framework; IWE = Intrinsic Work Experience; JS = Job Satisfaction; LKM = Leadership and Knowledge Management; LL = Leaders Lead; NEW IQ = New Inclusion Quotient; ROPC = Results-Oriented Performance Culture; S = Supervisors; SUP = Supportive; TM = Talent Management.

In this study, multicollinearity was demonstrated to be acceptable by reviewing the VIF values (Table 4.3) of the subindex scores and finding all values less than five. VIF levels were below 10, a frequently cited upper limit (Pallant, 2016, p. 159).

Table 4.3

Collinearity Tolerance and VIF Values

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Gender	.973	1.028
	Education	.954	1.048
	Tenure	.921	1.086
	Supervisory Status	.917	1.090
	Minority Status	.983	1.017
2	(Constant)		
	Gender	.961	1.041
	Education	.936	1.068
	Tenure	.913	1.095
	Supervisory Status	.872	1.147
	Minority Status	.952	1.051
	Intrinsic Work Experience	.349	2.866
	Empowering	.226	4.425
	Fair	.294	3.403
	Supportive	.357	2.800
	Supervisors	.276	3.629
	Open	.317	3.158
	Cooperative	.419	2.386
	Leaders Lead	.386	2.592
	Results-Oriented Performance Culture	.257	3.898
	Leadership and Knowledge Management	.333	3.003
	Talent Management	.211	4.735
	Job Satisfaction	.210	4.766
	Global Satisfaction	.296	3.383

Notes: Dependent Variable: Intent; VIF = Variance Inflation Factor.

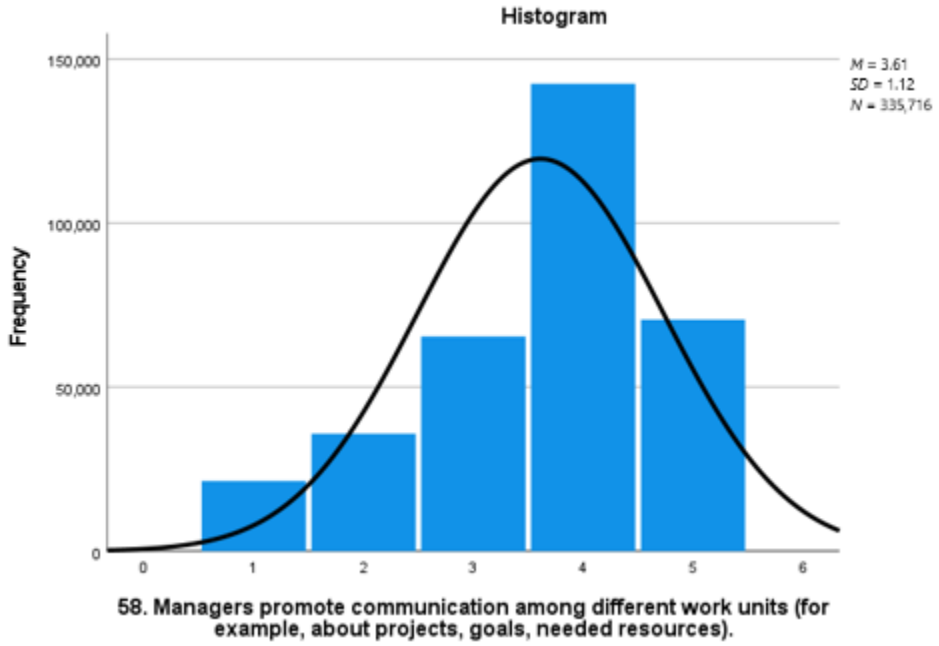
Collinearity reduction was addressed in two ways during data cleaning: first, by looking at bivariate correlations among IVs and ensuring none of the correlations was higher than .8. Also, significant initial multicollinearity was addressed by reducing variables present in multiple subscales, reducing variables that demonstrated little support for the construct, and reducing variables that had such high collinearity that they were redundant. The original indices and

questions are listed and described in Chapter 3, Table 3.5. Due to the limited number of items in some indices, the most conservative listwise data selection/entry tool was used in the regression analysis; Bonferroni correction was also used. For additional details please see Appendix C Multicollinearity Reduction.

COOP is a one-question scale. Question 58 was treated as a scale in the current research. Its distribution is shown in Figure 4.1.

Figure 4.1

Distribution of "Cooperative" Response



Outliers

I used the case wise outlier function in SPSS to identify outliers and removed those more than three standard deviations from the mean. In the first round, I removed 26 cases that had residuals higher than .9 and studentized residuals greater than 3.000; I eliminated 16 cases in the

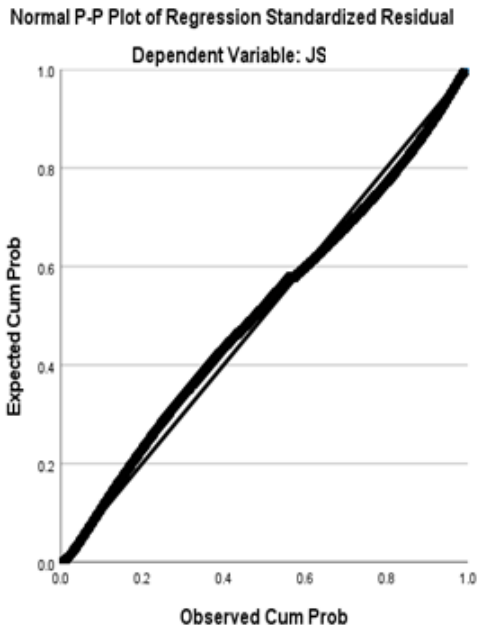
second round, 1 case in the third round, and none in the fourth. In total, I removed 43 outliers, leaving a final sample number of 435,040.

Linear Variables

Linearity describes whether predictor variables in the regression have a straight-line or linear relationship with the DV and is a requirement for regression testing analysis. A normal P-P plot of regression standardized residuals was calculated using JS as the DV instead of the dichotomous turnover intention variable, as illustrated in Figure 4.2. JS was used because it is not dichotomous and because it had the largest OR of .40. Observed and expected follow a generally straight line, indicating linearity existed between the predictors and DVs. This demonstrates the expected and required linearity necessary to conduct a logistic regression.

Figure 4.2

Normal P-P Plot of Residuals



Notes: Cum Prob = Cumulative Probability; JS = Job Satisfaction Index.

Large Sample Size

More than 15 cases were identified per IV. At step one of the logistic regression, the sample size was 328,029, and at step two it was 288,698. Response validity was adequate according to the following formulae provided by Green (1991) and VanVoorhis and Morgan (2007, p. 48), respectively:

(1) $50 + 8m = 202$, where m is the number of IVs (13 IVs, 6 controls),

(2) $N > 104 + m = 123$, for testing individual predictors.

Final Variables Used in Current Study

The indices and questions are described in Chapter 3 and listed in Table 3.5. During the elimination of multicollinearity, the subindices became less robust with fewer questions associated with each index. COOP connected to one question, while LL, S, IWE, and SUP each related to two questions, and the GSI, OPEN, EMP, and TM were each linked to three questions. FAIR was associated with four questions, and ROPC and JS each connected to five questions.

Independent Variables

As indicated, FEVS items are grouped into 4 major indices (EEI, GSI, NEW IQ, and HCAAF) and 13 subindices. The main indices were not used in this research due to collinearity. The 13 subindices that were included were LL, S, IWE, FAIR, OPEN, COOP, SUP, EMP, LKM, ROPC, TM, JS, and the GSI.

Categorical Control Variables

The five categorical control variables are summarized in Table 4.4. Removing outliers and "other" responses to the turnover intention DV resulted in some changes to control variables. By removing outliers and the "other" category for the DV, tenure for those employed with the

federal government for more than 20 years decreased by 8.6%, and tenure for those with between 10 and 20 years of service decreased by 5%; the tenure for those with fewer than 10 years' experience increased by 13.7%. Additionally, the number of blank responses to supervisory status decreased by 1.9%, and education level below a bachelor's level increased by 4.1%.The results for all other variables were within 1% of the results for the original data set.

Table 4.4

Frequency Table for Variables

Variable	Current Data Set		Original Public Data Set		Percent Change
	(*N* = **435,040**)		(*N* = **486,105**)		
	Number	*Percent*	*Number*	*Percent*	
Gender					
Male	184,773	42.5	207,900	42.8	-0.3
Female	173,794	39.9	195,265	40.2	-0.3
No response	76,473	17.6	82,940	17.1	0.5
Supervisory Status					
Non-Supervisor	298,476	68.6	334,558	68.8	-0.2
Supervisor	68,149	15.7	68,154	15.7	0.0
No response	68,415	15.7	76,475	17.6	-1.9
Education Level					
Less than bachelor's	99,330	27.7	114,600	23.6	4.1
Bachelor's degree	121,913	28	136,408	28.1	-0.1
Beyond bachelor's	137,027	31.5	151,925	31.3	0.2
No response	76,770	17.6	83,172	17.1	0.5
Tenure					
Ten years or fewer	162,171	37.3	114,600	23.6	13.70
Between 10 and 20 years	100,638	23.1	136,408	28.1	-5.0
More than 20 years	98,887	22.7	151,925	31.3	-8.6
No response	73,344	16.9	83,172	17.1	-0.2

Variable	Current Data Set		Original Public Data Set		Percent Change
Minority Status					
Minority	112,643	25.9	125,798	25.9	0.0
Nonminority	239,543	55.1	270,057	55.6	0.5
No response	82,854	19.0	90,250	18.6	0.4

Dependent Variable

The turnover intention DV was measured using five options from the original data file: "No," "Yes, to take another federal job," "Yes, to take a job outside federal government," "Other," and "Yes, to retire." "Other" was compressed by the U.S. OPM prior to inclusion in the public file to include "Yes, to retire." The "Other" category was removed as part of this research, reducing the sample size by 51,041. Two "yes" categories for intent to leave were included: "Yes, to leave for another federal job" and "Yes, to leave for a job outside the federal government" were considered positive for turnover intention. The final number of cases in the study was 435,040. Table 4.5 details the impact on the DV.

Table 4.5

Intent Before and After Data Cleanup

Are you considering leaving your organization within the next year, and if so, why?

		Current Data Set				**Original Public Data Set**				
Categories		*N*	%	Valid %	Cumulative %	Label	*N*	%	Valid %	Cumulative %
Valid	No	317,645	73.0	77.8	77.8	No	317,645	65.3	65.3	65.3
	Yes	90,608	20.8	22.2	100.0	Yes, to take another federal job	71,128	14.6	14.6	79.9
						Yes, to take a job outside the federal government	19,504	4.0	4.0	83.9
						*Other	51,041	10.5	10.5	94.5
	Total	408,253	93.8	100.0						
Missing	System	26,787	6.2				26,787	5.5		100
Total		435,040	100.0				486,105	100.0	100.0	

*"Other" category removed during this phase.

Study Results

The study results are presented in the order of descriptive statistics, logistic regression results, and additional analysis. In the presentation of the logistic regression analysis, the regressions' predictive ability, model fit, control variables, IVs, and Receiver Operating Characteristic (ROC) curve are discussed and summarized. The additional analysis addresses the principal component analysis (PCA), scree plot, pattern matrix, and emergent factors and concludes with a summary.

While the total number of survey responses received, as noted previously, was 435,040, numerous values were missing, as described later in the regression analysis section, and as shown in the following descriptive results. For example, the sample population was reduced from 435,040 to 328,029 during the regression due to missing cases as shown in Table 4.6.

Table 4.6

Regression Case Processing Summary

Case Processing Summary

Cases		*N*	%
Selected Cases	Included in Analysis	328,029	75.4
	Missing Cases	107,011	24.6
	Total	435,040	100.0
Unselected Cases		0	0
Total		435,040	100.0

Descriptive Statistics

According to the subindex data shown in Table 4.7, the mean subindex scores were higher than the average score of 3 on the 5-point scale. The mean ranged from 3.388 to 4.173, or 0.785 points, with an average score of 3.712. The standard deviation ranged from 0.780 to 1.174, or 0.394 points. The average standard deviation was 0.925. The sample number ranged from 403,682 to 435,028, spanning 31,346 cases, with an average of 427,587.5.

Table 4.7

*Subindex Descriptive Statistics**

Descriptive Statistics

Main Index	**Subindex**	***N***	***M***	***SD***
EEI	IWE	434,790	3.988	0.886
EEI	S	424,666	3.989	1.028
EEI	LL	416,233	3.626	1.086
NEW IQ	FAIR	430,699	3.388	1.021
NEW IQ	SUP	424,915	4.173	0.876
NEW IQ	OPEN	422,666	3.806	0.883
NEW IQ	COOP	403,682	3.494	1.174

Main Index	Subindex	*N*	*M*	*SD*
NEW IQ	EMP	434,983	3.574	0.952
HCAAF	ROPC	435,028	3.582	0.767
HCAAF	LKM	434,940	3.666	0.78
HCAAF	TMI	435,018	3.525	0.868
HCAAF	JS	435,007	3.807	0.783
GSI	GSI	426,051	3.685	0.913
Overall Average	NA	427,587.5	3.712	0.925
Valid N (listwise)		*394,737*		

Notes: *These numbers will differ from regression data that uses listwise function—These data are based on a 5-point Likert scale for which 1 is low and 5 is high; COOP = Cooperative; EEI = Employee Engagement Index; EMP = Empowering; GSI = Global Satisfaction Index; HCAAF = Human Capital Assessment and Accountability Framework; IWE = Intrinsic Work Experience; JS = Job Satisfaction; LKM = Leadership and Knowledge Management; LL = Leaders Lead; NEW IQ index = New Inclusion Quotient index; ROPC = Results-Oriented Performance Culture; S = Supervisors; SUP = Supportive; TM = Talent Management.

Descriptive statistics for the main scales are provided in Table 4.8 for reference. As noted previously, the main scales were found to have too much collinearity to evaluate in this study.

Table 4.8

Descriptive Statistics for Main Indices

Main Indices	*N*	*M*	*SD*
Employee Engagement	435,024	3.884	0.827
New Inclusion Quotient	435,038	3.680	0.822
Human Capital Assessment & Accountability Framework	435,040	3.615	0.731
Global Satisfaction	426,051	3.685	0.913
Valid *N* (listwise)	426,044		

Note: These numbers will differ from regression data that uses listwise function.

Logistic Regression Analysis

The research paradigm was to examine the factors represented by the FEVS indices that influenced turnover intent while controlling for education, gender, minority status, subagency, supervisory status, and tenure. This was a quantitative study using existing data from the 2017

FEVS data set. This section reviews the regression predictive ability, control variables, IVs, and ROC curve and summarizes the regression and hypothesis testing. Additional details on the regression equation are found in Appendix H Regression Results.

The sample size was decreased by using a listwise case selection and missing values. In listwise case selection, a case is dropped from an analysis if it has a missing value in at least one of the specified variables (IBM, 2020). An examination of the demographic statistics suggests a relationship exists in the missing data between demographic variables (Table 4.9). Those who chose not to answer one demographic variable appeared also to choose not to answer many of the other demographic variables. This may be because participants are reluctant to share personal information in general for another reason. This appears worthy of additional research as it seems to imply that this could be interpreted as a lack of trust in the anonymity of the results. If significant, this can impact the validity of the FEVS research.

Table 4.9

Missing Value Patterns

Tabulated Patterns

	Missing Patterns[a]							
Number of Cases	JS	GSI	Supervisory Status	Tenure	Education	Gender	Minority	Complete if ...[b]
350,942	-	-	-	-	-	-	-	350,942
58,664	-	-	X	X	X	X	X	426,052
8,946	-	X	X	X	X	X	X	435,031

Notes: Patterns with less than 1% cases (4351 or fewer) are not displayed; [a]Variables are sorted on missing patterns; [b]Number of complete cases if variables missing in that pattern (marked with X) are not used.

Given the large sample size in this study, the model fit was assessed with omnibus, Nagelkerke R^2 (Pseudo $R2$) and a Receiver Operating Characteristic (ROC) curve. Classification tables were used to assess goodness of fit and the proportion of cases that were classified correctly (Mertler & Vannatta, 2005).

Logistic Regression Predictive Ability

The DV category of interest—positive intent to leave ("yes" to intent)—was 0% correctly predicted at step 0, as shown in Table 4.10. The overall prediction accuracy for this model was 82.8%: 94% for no intent reported and 37.8% for intent to leave. The overall prediction accuracy increased from 78.5% to 82.8% with primary predictors added (Table 4.10). At step 0, 78.5% were correctly predicted as not having intent because 78.5% of the total participants reported no intent and 0% of those with intent were correctly predicted. Adding the subindices and controls improved predictions of "yes" answers to the question "Do you intend to leave" from 0% to correctly predicting 37.8% of those with intent.

This model predicts intent to stay very well with a 95.1% accuracy. The model predicts intent to stay better than intent to leave. The variables that are useful for determining intent to leave are also very appropriate when considering if an employee has intent to stay in their position.

Table 4.10

Classification Table

Observed	Block 0 Predicted Turnover intention?			Block 1 Predicted Turnover intention?			Block 2 Predicted Turnover intention?		
	No	Yes		No	Yes		No	Yes	
No	257,575	0	100%	257,200	375	99.90%	244,846	12,729	95.10%
Yes	70,454	0	0%	70,103	351	0.50%	43,852	26,602	37.80%
Overall Percentage			78.50%			78.50%			82.80%

Notes: Constant is included in the model; the cut value is .500. Block 1 includes controls; block 2 includes controls and subindices.

Model Fit

First, the control variables were entered into the model. In the next step, the primary predictors of interest were entered into the model. In the first step of the logistic regression, the Nagelkerke R^2 was reported to be 0.071 (Table 4.11), indicating that 7.1% of the variance in intent to leave could be explained by the control variables. In the second step of the logistic regression, the Nagelkerke R^2 was reported to be 0.345, indicating that an additional 27.4% of variance in intent to leave could be explained by adding the key predictors of interest.

The final model provided insights into the research question "What are the predictors of intent to leave federal government employment based on the Federal Employee Viewpoint Survey (FEVS) indices while controlling for education, gender, minority status, subagency, supervisory status, and tenure." The model demonstrated a better fit for the data over and above the intercept-only model, as shown in Table 4.11. In order to increase the validity of the findings,

I performed an additional Receiver Operating Characteristic (ROC) curve analysis, the details of which are presented next.

Control Variables

Categorical control variables were found to be relevant in controlling for their impact on intent (Table 4.11). Gender, education, minority status, subagency, supervisory status, and tenure were all found to be significant at the .000 level as controls. The categorical control variables were entered into the analysis as dummy variables. Minority status involved two categories: minority (omitted) and nonminority. Supervisory status also included two categories: non-supervisor (omitted) and supervisor. Tenure comprised 3 categories: 10 years or fewer (omitted), between 10 and 20 years, and more than 20 years. Education was represented by three categories: less than bachelor's degree (omitted), bachelor's degree, and more than bachelor's degree. Gender was represented by two categories: female (omitted) and male. Using Table 4.11, the following conclusions may be drawn.

Females are less likely to report turnover intention than are males (*OR*, 0.892, $p < .001$). Supervisors are more likely to report intent to leave compared to non-supervisors (*OR* 1.264, $p < .001$). People with a bachelor's degree (OR, 1.253, $p < .001$) and those with education beyond a bachelor's degree (*OR* 1.458, $p < .001$) are more likely than those without a bachelor's degree to state they intend to leave. Those with between 10 to 20 years tenure (*OR* 0.669, $p < .001$) and those with 20 plus years tenure (*OR* 0.379, $p < .001$) are less likely to report intent to leave than those with a tenure of 10 or fewer years. Nonminority people (*OR* 0.736, $p < .001$) are less likely to report turnover intention than minority people.

Table 4.11

Results of Hierarchical Binomial Logistic Regression for Turnover Intention

	Model 1				Model 2			
			95% C.I. for EXP(B)				95% C.I. for EXP(B)	
Variable	***B***	**OR**	**Lower**	**Upper**	***B***	**OR**	**Lower**	**Upper**
Constant	-0.766	0.465			4.881	131.793		
Gender (Male= ref)	-0.102	0.903	0.887	0.919**	-0.114	0.892	0.874	0.911**
Supervisory status (Non-Supervisor = ref)	-0.212	0.809	0.790	0.829**	0.234	1.264	1.229	1.300**
Minority status (Minority = Ref)	-0.236	0.790	0.775	0.805**	-0.307	0.736	0.720	0.752**
Education (less Than Bachelor's Degree = Ref)				**				**
Education Bachelor's Degree	0.237	1.267	1.238	1.297**	0.226	1.253	1.220	1.287**
Education Beyond a Bachelor's Degree	0.357	1.429	1.395	1.463**	0.377	1.458	1.419	1.499
Tenure (Less than ten years = Ref)				**				**
Tenure (between 10 and 20 years)	-0.195	0.823	0.806	0.840**	-0.401	0.669	0.654	0.685**
Tenure (More than 20)	-0.709	0.492	0.480	0.504**	-0.970	0.379	0.369	0.390**
Intrinsic Work Experience					-0.017	0.984	0.967	1.000
Empowering					0.088	1.092	1.071	1.114**
Fair					-0.139	0.87	0.856	0.885**
Supportive					0.029	1.029	1.012	1.047**
Supervisors					-0.144	0.866	0.852	0.880**
Open					0.144	1.154	1.134	1.176**
Cooperative					0.023	1.023	1.011	1.035**
Leaders Lead					0.004	1.004	0.990	1.018
Results-Oriented Performance Culture					0.197	1.218	1.189	1.248**
Leadership and Knowledge Management					0.115	1.122	1.099	1.145**

Variable	*B*	OR	Lower	Upper	*B*	OR	Lower	Upper
Job Satisfaction					-0.916	0.400	0.390	0.410**
Global Satisfaction Index					-0.735	0.479	0.471	0.488**
Talent Management					-0.169	0.845	0.827	0.863**
Sig.			.000				.000	
Nagelkerke R			0.071				0.345	

Note Dependent variable: Turnover intention coded as no = 0, yes =1

b Although the Nagelkerke R2 appears low, Hosmer and Lemeshow (2000, p. 167) declare that "low R2 values in logistic regression are the norm and this presents a problem when reporting their values to an audience accustomed to seeing linear regression values." They advise against routine publishing of R2 values with results from logistic models. However, they find them helpful in the model building state as a statistic to evaluate competing models

***p < .001*

Independent Variables

As shown in Table 4.11, several of the subindices were significant predictors of intent to leave in the expected direction. Higher scores in confidence in Supervisor (S), Fairness (FAIR), Job Satisfaction (JS), Global Satisfaction (GSI) and Talent Management (TM) are associated with lowers scores in intent to leave. Of these variables, GSI (*b* = -.735, OR = 0.48) and JS (*b* = -.916, OR = 0.40) are the strongest predictors of intent to leave.

Several significant predictors were not in alignment with expected directions. Unexpectedly, Empowering (EMP), Supportive (SUP), Cooperative (COOP), Open (OPEN) Result Oriented Performance Culture (ROPC), and Leadership and Knowledge Management (LKM) were associated with a higher intent to leave. Of these variables, ROPC was the strongest predictor of higher scores on intent to leave (*b* = .197, OR = 1.218)

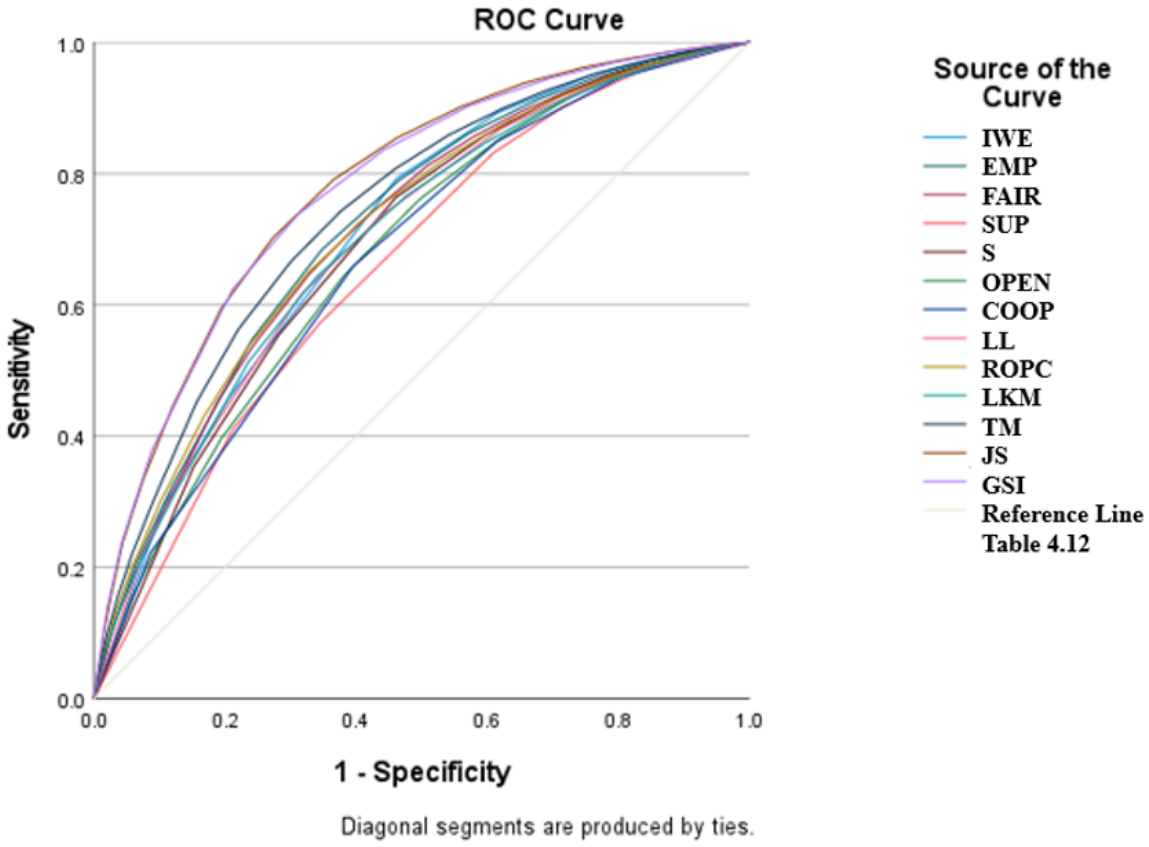
Two variables had no significant predictive power on intent to leave in the full model. Leaders Lead (LL) and intrinsic work experience (IWE) were nonsignificant with p values greater than the Bonferroni corrected probability of .003.

ROC Curve

To assess how well the logistic regression model fit the data, I examined sensitivity and specificity. Sensitivity is the probability the model predicts positive turnover intention when the participant answers "yes" to turnover intention. Specificity is the probability that the model correctly predicts no turnover intention for participants who did not report turnover intentions. The receiver operating characteristic (ROC) curve (Figure 4.3) shows sensitivity and specificity as a 0 to 1 calculation. The closer the curve is the top left corner of the plot; the more specificity and sensitivity are demonstrated. (This is described in Table 4.12 as the area.) The regression classification tables also calculate sensitivity and specificity data as previously mentioned. Classification tables show sensitivity was 37.8%, specificity was 95.1%, positive predictive value was 67.6%, and negative predictive value was 84.8%. The area under the ROC curve (Table 4.13) for IWE was .711, 95% CI (.709, .7131), which is an acceptable level of discrimination, according to Hosmer et al. (2013). Table 4.12 lists all the subindices studied and their level of discrimination.

Figure 4.3

ROC Curve



Note: COOP = Cooperative; EEI = Employee Engagement Index; EMP = Empowering; GSI = Global Satisfaction Index; HCAAF = Human Capital Assessment and Accountability Framework; IWE = Intrinsic Work Experience; JS = Job Satisfaction; LKM = Leadership and Knowledge Management; LL = Leaders Lead; NEW IQ = New Inclusion Quotient; ROPC = Results-Oriented Performance Culture; S = Supervisors; SUP = Supportive; TM = Talent Management.

Table 4.12

ROC Curve Discrimination of the Variables

Area Under the Curve

Test Result Variable(s)	Area	Std. Error[a]	Asymptotic Sig.[b]	Asymptotic 95% Confidence Interval Lower Bound	Asymptotic 95% Confidence Interval Upper Bound	Level of Discrimination
Intrinsic Work Experience	.711	.001	.000	.709	.713	Acceptable
Empowering	.720	.001	.000	.718	.722	Acceptable
Fairness	.713	.001	.000	.711	.715	Acceptable
Supportive	.659	.001	.000	.657	.661	Poor
Supervisor	.694	.001	.000	.692	.697	Poor
Open	.679	.001	.000	.677	.681	Poor
Cooperative	.672	.001	.000	.670	.674	Poor
Leader's lead	.699	.001	.000	.697	.701	Poor
Results-Oriented Performance Culture	.715	.001	.000	.713	.717	Acceptable
Leadership and Knowledge Management	.700	.001	.000	.698	.702	Acceptable
Talent Management	.742	.001	.000	.740	.743	Acceptable
Job Satisfaction	.780	.001	.000	.778	.781	Acceptable
Global Satisfaction Index	.777	.001	.000	.775	.779	Acceptable

Notes: GSI has at least one tie between the positive actual state group and the negative actual state group—statistics may be biased; [a]Under the Nonparametric Assumption; [b]Null Hypothesis: True Area = 0.5.

The following results were produced after controlling for education, gender, minority status, subagency, supervisory status, and tenure. A probability value of less than .5 demonstrated that a variable added significantly to the model, *b* and odds ratio values demonstrated predictability, and the odds ratio reflects how much increase or decrease is demonstrated.

Summary of Regression and ROC Curve Results

A binomial logistic regression was performed to ascertain the effects of Intrinsic Work Experience (IWE), Empowering (EMP), Fairness (FAIR), Supportive (SUP), Supervisor (S), Open (OPEN), Cooperative (COOP), Leaders Lead (LL), Results-Oriented Performance Culture (ROPC), Leadership and Knowledge Management (LKM), Job Satisfaction Index (JSI), Global Satisfaction Index (GSI), and Talent Management (TM) on the likelihood that participants reported turnover intentions while controlling for education, gender, minority status, subagency, supervisory status, and tenure. The logistic regression model was statistically significant ($\chi 2[214] = 82774.39$, $p < .001$). The model explained 34.5% Nagelkerke R^2 (Pseudo R^2) of the variance in turnover intention and correctly classified 82.8% of cases. Sensitivity was 37.8%, specificity was 95.1%, positive predictive value was 67.6%, and negative predictive value was 84.8%. Of the 13 predictor variables, 11 were statistically significant. LL and IWE were not significant (as shown in Table 4.11). Four variables (FAIR, GSI, JS, and TM) were found to be significant, to have acceptable discrimination, and to have a negative relationship with turnover intention. Three variables (EMP, LKM, and ROPC) were found to be significant, to have acceptable discrimination, and to have a positive relationship with turnover intention. In addition, all six control variables were significant. JS and GSI had the largest odds ratios. Increasing JS was associated with a 0.6 ($OR = 0.4$) reduction in the likelihood of exhibiting

turnover intention; increasing GSI was associated with a 0.52 (*OR* = 0.48) reduction in the likelihood of exhibiting turnover intention.

Summary of Hypothesis Testing Results

A multiple logistic regression summary of predictor variables was performed while controlling for education, gender, minority status, subagency, supervisory status, and tenure. Table 4.13 summarizes the data on hypothesis testing described next.

Education, gender, minority status, subagency, supervisory status, and tenure were all found to be significant at the .000 level as controls. As the predictor variables totaled 19, including controls, a conservative approach employing the Bonferroni correction method was followed. By dividing the original probability of .05 by 19 (for controls plus IVs), a new Bonferroni corrected probability of .003 was established. The corrected probability of .003 did not impact the findings reported in Table 4.11 as they are at p<.001.

RQ: What are the predictors of intent to leave federal government employment based on the Federal Employee Viewpoint Survey (FEVS) indices while controlling for education, gender, minority status, subagency, supervisory status, and tenure ?

H1: The Employee Engagement Index (EEI) as measured by its subindices will be negatively related to turnover intention while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H1A: The Leaders Lead subindex (LL) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure. LL (Wald = .302, $p < .582$, *OR* = 1.00) was found to be a nonsignificant predictor of intent to leave. Therefore, H1A was not supported.

H1B: The Supervisors subindex (S) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure. The evidence showed that S (Wald = 303.82, $p < .001$, $OR = 0.87$) was a significant predictor of intent to leave, indicating that with every one-unit increase in S scores, the odds for intent to leave decreased by 13%. Therefore, H1B was supported.

H1C: The Intrinsic Work Experience subindex (IWE) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure. According to the results, IWE (Wald = 3.70, $p = .055$, $OR = 0.98$) was a nonsignificant predictor of intent to leave. However, notably, the probability value approached the significance threshold, indicating an inverse association. The evidence was insufficient to support H1C.

H2: The New Inclusion Quotient (NEW IQ) as measured by its subindices will be negatively related to turnover intention while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H2A: The Fairness subindex (FAIR) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure. FAIR (Wald = 271.43, $p < .001$, $OR = 0.87$) was found to be a significant predictor of intent to leave, with the data indicating that with every one-unit increase in FAIR scores, the odds for intent to leave decreased by 13%. Therefore, H2A was supported.

H2B: The Open subindex (OPEN) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender,

minority status, subagency, supervisory status, and tenure. The data pointed to OPEN (Wald = 243.58, $p < .001$, $OR = 1.15$) as a significant predictor of intent to leave, indicating that with every one-unit increase in OPEN scores, the odds for intent to leave increased by 15%. The relationship was positively associated; therefore, H2B was not supported.

H2C: The Cooperative subindex (COOP) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure. COOP (Wald = 13.63, $p < .001$, $OR = 1.02$) was shown to be a significant predictor of intent to leave, the results indicating that with every one-unit increase in COOP scores, the odds for intent to leave increased by 2%. The relationship was positively associated, disproving H2C.

H2D: The Supportive subindex (SUP) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure. The analysis demonstrated that SUP (Wald = 10.86, $p < .001$, $OR = 1.03$) was a significant predictor of intent to leave, indicating that with every one-unit increase in SUP scores, the odds for intent to leave increased by 3%. The relationship was positively associated; therefore, H2D was not supported.

H2E: The Empowering subindex (EMP) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure. Empowering (Wald = 76.647, $p < .001$, $OR = 1.09$) was found to be a significant predictor of intent to leave, the numbers indicating that with every one-unit increase in EMP scores, the odds for intent to leave increased by 9%. The relationship was positively associated; therefore, H2E was not supported.

H3: The Global Satisfaction Index (GSI) will be negatively related to turnover intention while controlling for education, gender, minority status, subagency, supervisory status, and tenure. The GSI index showed evidence (Wald = 5974.76, $p < .001$, $OR = 0.48$) of being a significant predictor of intent to leave, indicating that with every one-unit increase in GSI scores, the odds for intent to leave decreased by 52%. The relationship was negatively associated; therefore, H3 was supported.

H4: The Human Capital Assessment and Accountability Framework index (HCAAF) as measured by its subindices will be negatively associated with turnover intention while controlling for education, gender, minority status, subagency, supervisory status, and tenure.

H4A: The Leadership and Knowledge Management subindex (LKM) will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure. LKM (Wald = 117.28, $p < .001$, $OR = 1.12$) was found to be a significant predictor of intent to leave, the data indicating that with every one-unit increase in EMP scores, the odds for intent to leave increased by 12%. The relationship was positively associated; therefore, H4A was not supported.

H4B: The Results-Oriented Performance Culture (ROPC) subindex of the HCAAF index will be negatively linked with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure. The results indicated that ROPC (Wald = 256.79, $p < .001$, $OR = 1.22$) was a significant predictor of intent to leave, indicating that with every one-unit increase in EMP scores, the odds for intent to leave increased by 22%. The relationship was positively associated; therefore, H4B was not supported.

H4C: The Job Satisfaction (JS) subindex of the HCAAF index will be negatively associated with federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure. JS (Wald = 5049.88, $p < .001$, $OR = 0.40$) was found to be a significant predictor of intent to leave, the analysis indicating that with every one-unit increase in JS scores, the odds for intent to leave decreased by 60%. The relationship was negatively associated; therefore, H4C was supported.

H4D: The Talent Management (TM) subindex of the HCAAF index will be negatively related to federal government employees' intent to leave their current organization while controlling for education, gender, minority status, subagency, supervisory status, and tenure. The subindex TM (Wald = 248.04, $p < .001$, $OR = 0.85$) was found to be a significant predictor of intent to leave, evidence indicating that with every one-unit increase in TM scores, the odds for intent to leave decreased by 15%. The relationship was negatively associated; therefore, H4D was supported.

The logistic regression supplied many measures. The measures most significant to the hypotheses testing were probability, odds ratio, direction, variability explained, and model fit. The logistic regression also supplied the percentage correctly predicted. Probability is described by a *p* value that indicates its likelihood of happening by chance alone. The odds ratio provides a measure of influence per unit on the variable. Direction of the impact on the variable, whether increasing or decreasing, was related to the DV increasing. The ROC curve indicates the level of discrimination. Together these measures indicate some hypotheses were supported and some were not, as listed in Table 4.13.

Table 4.13

Summary of Hypothesis Testing

Hypothesis	Scale	Direction	Probability	Result	Level of ROC Discrimination
H1: The EEI and its subindices will be negatively associated with intent.	EEI			Supervisor index partially supports	
H1A: Leaders Lead (LL), the EEI subindex, will be negatively associated with intent to leave.	LL	Positive	$p = .582$	Not supported	Acceptable
H1B: Supervisor (S), the EEI subindex, will be negatively associated with intent to leave.	S	Negative	$p < .001$	Supported	Poor
H1C: Intrinsic Work Experience (IWE), the EEI subindex, will be negatively associated with intent to leave.	IWE	Negative	$p = .055$	Not supported	Acceptable
H2: The New Inclusion Quotient (NEW IQ) and its subindices will be negatively associated with intent to leave.	NEW IQ			FAIR partially supports	
H2A: Fairness, the NEW IQ subindex, will be negatively associated with intent to leave.	FAIR	Negative	$p < .001$	Supported	Acceptable
H2B: Open, the NEW IQ subindex, will be negatively associated with intent to leave.	OPEN	Positive	$p < .001$	Not supported	Poor

Hypothesis	Scale	Direction	Probability	Result	Level of ROC Discrimination
H2C: Cooperative (COOP), the NEW IQ subindex, will be negatively associated with intent to leave.	COOP	Positive	$p < .001$	Not supported	Poor
H2D: Supportive (SUP), the NEW IQ subindex, will be negatively associated with intent to leave.	SUP	Positive	$p < .001$	Not supported	Poor
H2E: Empowering (EMP), the NEW IQ subindex, will be negatively associated with intent to leave.	EMP	Positive	$p < .001$	Not supported	Acceptable
H3: The GSI will be negatively associated with intent to leave.	GSI	Negative	$p < .001$	Supported	Acceptable
H4: The HCAAF index and its subindices will be negatively associated with intent to leave.	HCAAF			Partially supported by JS and TM indices	
H4A: Leadership and Knowledge Management (LKM), the HCAAF subindex, will be negatively associated with intent to leave.	LKM	Positive	$p < .001$	Not supported	Acceptable
H4B: Results-Oriented Performance Culture (ROPC), the HCAAF subindex, will be negatively associated with intent to leave.	ROPC	Positive	$p < .001$	Not supported	Acceptable

Hypothesis	Scale	Direction	Probability	Result	Level of ROC Discrimination
H4C: Job Satisfaction (JS), the HCAAF subindex, will be negatively associated with intent to leave.	JS	Negative	$p < .001$	Supported	Acceptable
H4D: Talent Management (TM), the HCAAF subindex, will be negatively associated with intent to leave.	TM	Negative	$p < .001$	Supported	Acceptable

Practical Significance

While supervisor, openness, cooperative and supportive were found to have poor discriminant ability they should also be considered for practical significance. Supervisor and openness have very healthy odds ratios of 0.87 and 1.15, respectively. They should, from a practical significance standpoint, be considered when examining related factors. Supportive and cooperative have very modest 1.03 and 1.02 odds ratios indicating little practical significance.

Additional Analysis

In order to go beyond hypothesis testing and allow for a more robust understanding of the data, I additionally analyzed the variables that negatively influenced intent and had an acceptable level of discrimination. These additional analyses included factor analyses in the form of a PCA and a reliability analysis.

Principal Component Analysis (PCA) on Turnover Intention

As this study was explanatory, I employed a PCA, a dimension reduction technique that is used in such designs. After data cleanup, I tested the important assumptions to ensure the

suitability of the data for such an analysis. I performed the Kaiser-Meyer-Olkin (KMO) test to confirm that the sample size was adequate. The KMO test yielded a score of .89, suggesting that the sample was adequate for a PCA. Bartlett's test of sphericity was significant (< .001), which showed that the correlation matrix was different from an identity matrix; this satisfied one of the important requirements for the PCA test. This information is presented in Table 4.14 additional information can be found in Appendix I. Additionally, I implemented a factor analysis to gain a better understanding of how the questions related to the subindices that were negatively associated with turnover intent and had acceptable levels of discrimination can be better understood. The subindices included were FAIR, GSI, JS, and TM.

Table 4.14

Assumption Testing for Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.943
Bartlett's Test of Sphericity	Approx. Chi-Square	3,059,037.401
	df	105
	Sig.	.000

Table 4.15 explains the initial eigenvalues associated with the 15 components and the percentage of variance explained by each. As the figures reflect, only two components had eigenvalues of greater than one: (1) component 1 with 7.911 and (2) component 2 with 1.210. These two components accounted for a cumulative variance of 60.803% of the total variance. Eigenvalues and the scree plot described next led to the decision to keep the first two factors. The first factor (Work Environment) dominated with 52.738% of the total variance, and the second factor (Work Value) accounted for 8.065% of the variance.

Table 4.15

Factor Analysis: Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Component	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %	Total
1 (Work Environment)	7.91	52.74	52.74	7.91	52.74	52.74	7.72
2 (Work Value)	1.21	8.07	60.80	1.21	8.07	60.80	4.65
3	0.84	5.62	66.43	-	-	-	-
4	0.75	4.98	71.40	-	-	-	-
5	0.68	4.54	75.94	-	-	-	-
6	0.60	4.03	79.97	-	-	-	-
7	0.52	3.47	83.44	-	-	-	-
8	0.46	3.09	86.53	-	-	-	-
9	0.42	2.82	89.35	-	-	-	-
10	0.37	2.48	91.83	-	-	-	-
11	0.35	2.32	94.15	-	-	-	-
12	0.25	1.66	95.81	-	-	-	-
13	0.23	1.54	97.35	-	-	-	-
14	0.21	1.42	98.76	-	-	-	-
15	0.19	1.24	00.00	-	-	-	-

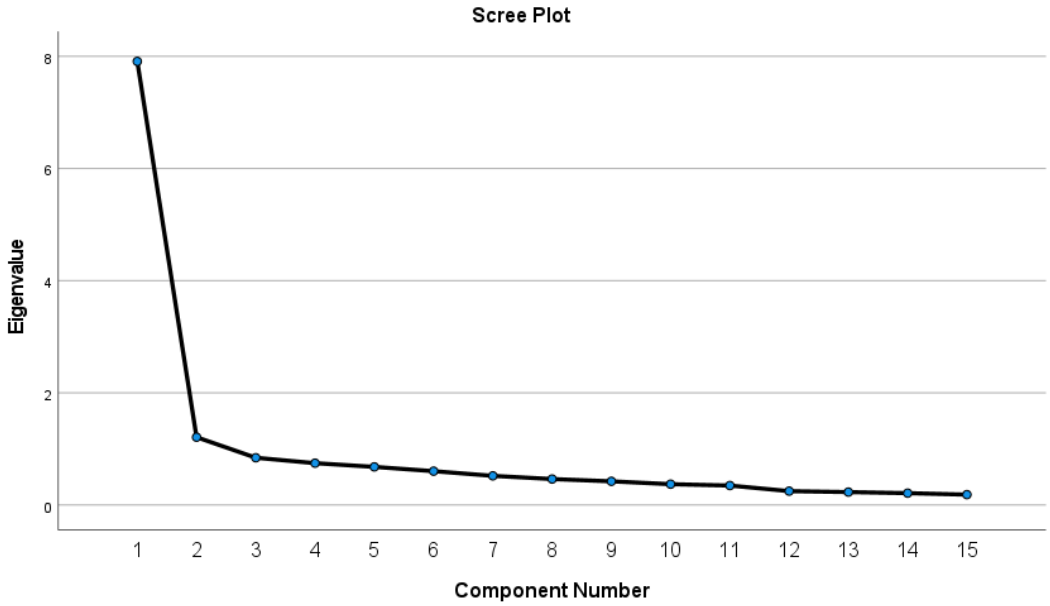
Notes: Extraction Method: Principal Component Analysis; [a]When components are correlated, sums of squared loadings cannot be added to obtain a total variance; [b]Values rounded to nearest hundredth.

Scree Plot

The following scree plot confirms the choice of the two components noted. As depicted in Figure 4.2, component one was the most significant.

Figure 4.4

Scree Plot



Chart, line chart showing after 2 components eigenvalues stop contributing.

Pattern Matrix

After deciding to keep the two components, I employed a promax rotation to interpret the factor loadings. I used promax, an oblique rotation method, to achieve a simpler structure for the factor solution, as the 15 items that represented the strongest influences upon negative intent were not independent and were correlated with each other. Table 4.16 presents the pattern matrix, which represents the partially standardized regression coefficient for each item with the associated component factor resulting from the promax rotation. The matrix clearly shows two components. The interpretation of these factors is explained in the next section.

Table 4.16

Factor Analysis: Pattern Matrix[a]

Question	Work Environment (1)	Work Value (2)	Subindex
24. In my work unit, differences in performance are recognized in a meaningful way.	.905	-	Fairness
25. Awards in my work unit depend on how well employees perform their jobs.	.903	-	Fairness
37. Arbitrary action, personal favoritism and coercion for partisan political purposes are not tolerated.	.859	-	Fairness
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.	.809	-	Fairness
67. How satisfied are you with your opportunity to get a better job in your organization?	.749	-	Job Satisfaction
63. How satisfied are you with your involvement in decisions that affect your work?	.724	-	Job Satisfaction
21. My work unit is able to recruit people with the right skills.	.691	-	Talent Management
71. Considering everything, how satisfied are you your organization?	.685	-	Global Satisfaction
68. How satisfied are you with the training you receive for your present job?	.655	-	Talent Management
40. I recommend my organization as a good place to work.	.646	-	Global Satisfaction
29. The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals.	.610	-	Talent Management

Question	Work Environment (1)	Work Value (2)	Subindex
69. Considering everything, how satisfied are you with your job?	.528	.444	Job Satisfaction
70. Considering everything, how satisfied are you with your pay?	.518	-	Global Satisfaction
5. I like the kind of work I do.	-	.920	Job Satisfaction
13. The work I do is important.	-	.902	Job Satisfaction

Notes: [a]Rotation converged in three iterations. Extraction Method: Principal Component Analysis, Rotation Method: Promax with Kaiser Normalization

Emergent Factors

Factor One—Work Environment

The first factor encompassed a dozen measures I perceived as focused on the concept of the "work environment." The first component consisted of 12 items, out of which only one was cross loaded, and no loading values fell under .5. The cross-loaded item related to job satisfaction and was captured more accurately in factor two. The 12 items related to work environment included performance recognition (.905), performance based awards (.903), fairness (.859), not tolerating discrimination (.809), opportunities (.749), involvement in decisions (.724), recruits staff with right skills (.691), organization satisfaction (.685), job training (.655), recommend organization (.646), knowledge and skills to accomplish goals (.610), and pay satisfaction (.518).

The reliability statistics as presented in Table 4.17 show the items' Cronbach's alpha scores, which ranged from a low of 0.928 to a high of 0.929. Traditionally, a Cronbach's alpha score above 0.70 indicates the internal consistency of the scale and renders it to be reliable

specifically for measuring the variables related to the perceptions about the participants' work environment. Therefore, the items used in this specific case were vetted to be reliable.

Table 4.17

Reliability: Work Environment

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	*N* of Items
.928	**.929**	**12**

Factor Two—Work Value

Two items loaded strongly to component two: liking the work (.920) and the work I do is important (.902). One item was cross loaded. Job satisfaction (Q69) loaded on both work environment (.528) and work value (.444). I kept it in work value as a job satisfaction measure due to it being a complex variable with the assumption it is the nature of the variable (Yong & Pierce, 2013). The question "Considering everything, how satisfied are you with your job?" has semantic implications for both work environment and work value. Positive perceptions of work value and work environment would be required to have satisfaction with the job. This variable could have been removed for ease of interpretation, but it is kept as is, to underscore the richness and complexity of the data.

The reliability statistics that appear in Table 4.18 show the scales' Cronbach's alpha scores, ranging from a low of 0.756 to a high of 0.765. Traditionally, a Cronbach's alpha score above 0.70 indicates the internal consistency of the scale and renders it to be reliable for specifically measuring the variables related to work value. Therefore, the items used in this

specific case were vetted to be reliable. In addition, descriptive statistics related to the questions included in the components are provided in Table 4.19.

Table 4.18

Reliability: Work Value

Reliability Statistics		
Cronbach's Alpha	**Cronbach's Alpha Based on Standardized Items**	***N* of Items**
.756	.765	3

Table 4.19

Descriptive Statistics of Component Variables

Descriptive Statistics			
Question	***M***	***SD***	**Analysis *N***
24. In my work unit, differences in performance are recognized in a meaningful way.	3.12	1.185	321,692
25. Awards in my work unit depend on how well employees perform their jobs.	3.28	1.214	321,692
37. Arbitrary action, personal favoritism and coercion for partisan political purposes are not tolerated.	3.55	1.212	321,692
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.	3.86	1.085	321,692
5. I like the kind of work I do.	4.25	.849	321,692
13. The work I do is important.	4.43	.746	321,692
63. How satisfied are you with your involvement in decisions that affect your work?	3.52	1.126	321,692

Question	M	SD	Analysis N
67. How satisfied are you with your opportunity to get a better job in your organization?	3.13	1.232	321,692
69. Considering everything, how satisfied are you with your job?	3.86	1.029	321,692
40. I recommend my organization as a good place to work.	3.88	1.055	321,692
70. Considering everything, how satisfied are you with your pay?	3.61	1.139	321,692
71. Considering everything, how satisfied are you with your organization?	3.68	1.079	321,692
21. My work unit is able to recruit people with the right skills.	3.17	1.185	321,692
29. The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals.	3.80	.938	321,692
68. How satisfied are you with the training you receive for your present job?	3.53	1.117	321,692

Factor Analysis Summary

A factor analysis was run on 15 questions that had acceptable discrimination and a negative relationship with turnover intent: that is, the higher the value, the lower the turnover intent. The 15 questions involved were associated with a sample size of 321,692. The suitability of the factor analysis was assessed prior to analysis. Inspection of the correlation matrix showed that all variables had at least one correlation coefficient greater than 0.3. The overall KMO measure was 0.943 with classifications of ‘meritorious’ according to Kaiser (1974). Bartlett’s test of sphericity was statistically significant ($p < .001$), indicating that the data were likely factorizable.

The PCA revealed two components that had eigenvalues greater than one and which explained 52.7%, and 8.1% of the total variance, respectively. Visual inspection of the scree plot indicated that two components should be retained (Cattell, 1966).

The two-component solution explained 60.8% of the total variance. Given the high degree of correlation among the items, a promax rotation was applied. The interpretation of the data was consistent with the work environment questions loading on component one and with the work value loading on component two. The two components that emerged appear to be focused on two distinct concepts. The first component encompassed a dozen measures I perceived as focused on the concept of the "work environment." The second concept that emerged was "work value."

Conclusion

This chapter presents the quantitative analysis results for this study. Variables, data collection methods, coding, and multicollinearity were discussed. Eligibility for logistic regression assumptions were met, and a multiple logistic regression was conducted, with significant findings showing Intrinsic Work Experience (IWE), Empowering (EMP), Fairness (FAIR), Results-Oriented Performance Culture (ROPC), Leadership and Knowledge Management (LKM), Talent Management (TM), Job Satisfaction (JS), and Global Satisfaction (GSI) had acceptable levels of discrimination. To identify the factors that predict self-reported intent to leave in a sample of government employees, a multiple logistic regression analysis was conducted with education, gender, minority status, subagency, supervisory status, and tenure entered as controls, followed by the modified FEVS subscales of Intrinsic Work Experience (IWE), Empowering (EMP), Fairness (FAIR), Supportive (SUP), Supervisor (S), Open (OPEN), Cooperative (COOP), Leaders Lead (LL), Results-Oriented Performance Culture (ROPC), Leadership and Knowledge Management (LKM), Job Satisfaction Index (JSI), Global Satisfaction Index (GSI), and Talent Management (TM). The results indicated that, together, the predictors accounted for a significant amount of variance in intent to leave, with a likelihood

ratio of $\chi 2$ (214) = 82676.210, $p < .001$. The Nagelkerke Pseudo-$R2$ indicated approximately 34.5% of the variance in intent to leave was accounted for by the variables overall. Of all the variables in the model, 11 were significantly associated with intent to leave.

I conducted a factor analysis to better understand the questions in the subindices that were negatively associated with turnover intent and had an acceptable level of discrimination. The subindices included were Fairness (FAIR), Global Satisfaction Index (GSI), Job Satisfaction (JS), and Talent Management (TM). The PCA revealed two components that had eigenvalues greater than one and that explained 52.7%, and 8.1% of the total variance, respectively. The components appeared to be focused on two distinct concepts. The first component encompassed a dozen measures that seem focused on the concept of the "work environment." The second concept emerged through three measures that focused on the concept of "work value." The two components were found to be reliable, and the two-component solution explained 60.8% of the total variance.

Chapter 4 described the variables, data eligibility, quantitative analysis, and data results of the logistic regression and factor analysis, and the results of hypothesis testing. Chapter 5 includes the discussion, implications, and conclusions derived from the analysis. Chapter 5 also presents the study's limitations and conclusions.

CHAPTER 5: CONCLUSIONS, IMPLICATIONS, AND FUTURE DIRECTIONS

This chapter provides a discussion on the research findings, along with the theoretical and practical implications. Research findings are reviewed in the context of predictions and prior literature. The generalizability of the findings and the limitations of the study are also discussed, along with implications for practitioners. This chapter concludes with a summary and recommendations for future research.

Retention of competent, skilled individuals is especially relevant in the current marketplace with low unemployment and high competition for talented staff. As evidence, numerous articles have been published about the "Great Resignation" occurring in the fall of 2021 (Avitzur, 2021; Cook, 2021; Ghandi & Robison, 2021; Hopkins & Figaro, 2021). Furthermore, recruiting and retaining a skilled workforce became increasingly difficult during the COVID-19 pandemic, as employees monitored their agencies' responses to the pandemic and increasingly evaluated employment options, such as telework. These phenomena have prompted managers and leaders to seek ways to reduce employee turnover; federal government leaders and managers can identify appropriate retention strategies by considering the data provided by the annual U.S. OPM FEVS results.

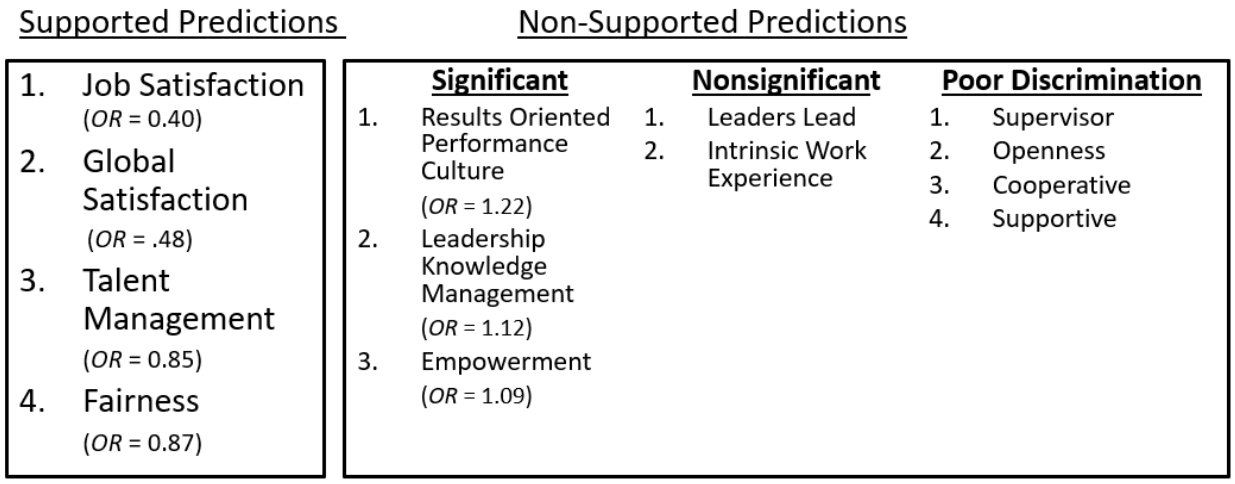
Researchers have reported mixed results following attempts to better understand FEVS data and their relationship with turnover intent. Understanding of turnover intent is, therefore, of interest to both practitioners and researchers. This study involved an examination of the entire 2017 FEVS public data set to understand the relationship between the subindices and self-reported intent to leave.

Discussion of Study Results

A multiple logistic regression was used in this study to answer the research question "What are the predictors of intent to leave federal government employment based on the FEVS indices while controlling for education, gender, minority status, subagency, supervisory status, and tenure?" Figure 5.1 depicts the important results of this study. The important conclusions of the study are given in this section.

Figure 5.1

Hypothesis Testing Significant Results



Supported Predictions

Job satisfaction, global satisfaction, talent management and fairness supported the predictions that the indices would be negatively associated with turnover intention. The prediction was as the indices increased, turnover intention would decrease. Supported ($p < .001$) predictions are discussed in the order of their odds ratio, and a brief description of their principal component analysis loading is also provided.

Job Satisfaction: Of all the predictors of turnover intention, job satisfaction was the most significant. For every 1 unit increase in job satisfaction, the odds of having turnover intention

decreased by 0.60. Further examination of job satisfaction using the ROC Curve showed that it had excellent discrimination in predicting turnover intention. The strength of this variable outweighs all other variables in predicting intention. This is a significant finding for organizations because if there is only one variable that management can work to influence, then it must be job satisfaction. This is consistent with the literature on job satisfaction in predicting workplace outcomes, in particular turnover intentions (Lambert et al., 2001). Job satisfaction loaded in the principal component analysis most strongly with work value. Work value being entirely composed of job satisfaction questions. Job satisfaction also had 2 questions load into the work environment component demonstrating job satisfaction as a construct that crosses the boundaries between work environment and work value.

Global Satisfaction: It is almost as strong as predicting turnover intention as job satisfaction. For every 1 unit increase in global satisfaction, the odds of turnover intention are decreased by 0.52. Further examination of global satisfaction using the ROC Curve showed that it had discriminant ability in predicting turnover intention. The strength of this variable outweighs all the remaining variables. A high global satisfaction score denotes employees have a high satisfaction with their workplace and perceive that the organization is equitable in distributing rewards and is a great place to work. This is consistent with the literature in human resource management (Pitts et al., 2011). Global satisfaction loaded in the principal component analysis on work environment.

Talent Management: Showed significance in predicting turnover intention. For every 1 unit increase in this variable the odds of turnover intention decreased by 0.15. The evidence shows that, when managers demonstrate recruitment of employees with the right skills and ensuring the team has the right knowledge, training, and competencies to fulfill their

responsibilities, then employees will have decreased turnover intention. This reinforces the importance of talent management in employee retention and increased workplace productivity. This is consistent with the literature on talent management (Hur & Hawley, 2019). Talent management loaded in the principal component analysis on work environment.

Fairness: Results suggest perceived employee fairness decreases employee turnover intentions. For every 1 unit increase in fairness, the odds of turnover intention decreased by 0.13. This finding is also consistent with literature, especially equity theory. Managers need to be fair in evaluating employee performance and allocating rewards. Managers also need to protect employees from arbitrary action such as discriminatory practices based on demographic characteristics and favoritism. This is consistent with the literature on fairness practices (Sabharwal et al., 2018). Fairness loaded in the principal component analysis on work environment.

To summarize this section on the predictors of turnover intention. Job satisfaction and global satisfaction are the most dominant of all the significant variables, followed by talent management and fairness. The JS and GSI showed acceptable discrimination in the ROC curve, with JS area under the curve at .780 and GSI area under the curve at .777; these results lean toward the high end of the acceptable range, almost indicating excellent discrimination. Herzberg's hygiene and motivation factors closely align with job and global satisfaction possibly explaining their strong impact.

Gender, education, minority status, subagency, supervisory status, and tenure were all found to be significant at the .000 level providing support for Fishbein's Theory of Reasoned Action. The experiences we have and how we think and feel about turnover intentions are influenced by our diverse backgrounds. Our subjective norms and how we feel significant others

will view our taking the action may also be playing a role in these control variables being significancy related to turnover intention.

Non-Supported Predictions

Participants who reported positively for Empowering (EMP), Results-Oriented Performance Culture (ROPC) and Leadership and Knowledge Management (LKM) also indicated higher turnover intent ($p < .001$). In other words, the more they were positive for EMP, ROPC, and LKM, the more they reported intent to leave. I had predicted as the indices increased; turnover intention would decrease. Therefore, these variables did not support my hypotheses. They are discussed in order of their odds ratios. These variables odds ratios are smaller than the supported hypotheses. In order to compare the significant variables with good discriminant ability that support predictions with those that do not support predication we can examine the odds ratios. The sum of the non-supported variables is a 0.43. The sum of the supported variables odd ratio is 1.40. This demonstrates the supported predictions have a much more powerful odds ratio and influence on an individual's turnover intention. The non-supported significant variables will be discussed next in order of their odds ratios, followed by nonsignificant variables and variables with poor discriminant ability.

ROPC: Contrary to my prediction, ROPC is positively related to turnover intention. For every 1 unit increase in ROPC, the odds of turnover intention increased by 0.22. This was a surprising result initially. After additional consideration, the following questions arose. Does a positive results-oriented performance culture encourage some employees to look elsewhere for employment? Do they recognize that their performance levels are high and seek to have more recognition (in the form of financial compensation, a better position, or other recognition), triggering their intent to leave? Have employees mastered their work responsibilities and

advanced as far as they can in their present situation, motivating them to look elsewhere for a position with more potential? There is evidence in the literature that suggested performance evaluations, a part of ROPC, is related to turnover intention. The connection between high performance and intent to leave was described as strongly influenced by an individual's performance rating in a meta-analysis of 65 studies (Zimmerman, 2009). This meta-analysis also revealed that good performers were slightly more likely to report intention to quit. Have these high performers outgrown their environment?

Leadership and Knowledge Management (LKM): Is positively related to turnover intention, which is contrary to my prediction. For every 1 unit increase in LKM, the odds of turnover intention increased by 0.12. Although this result was rather surprising initially, further consideration raised the following possibilities. Does a positive LKM score reflect leaders who prepare team members for future jobs elsewhere, thereby indirectly increasing those team members' intention to leave? Prior research has indicated proactive personalities views of career future impact intention to remain (Prabhu, 2018).

Empowerment: Like ROPC and LKM, empowerment was an unexpected result. It is positively related to turnover intention. For every 1 unit increase in empowerment, the odds of turnover intention increased by 0.09. If they worked in an empowering environment, did they feel empowered to find new jobs? Does empowerment allow them to expand their skill sets and become more marketable for new positions? An empowered employee, like a high performing employee, may receive unsolicited invitations for new employment from other agencies or entities.

Non-Significant Results

Leaders Lead (LL) and Intrinsic Work experience (IWE) were not supported by the statistical results. Leader's Lead has an almost neutral odds ratio of 1.004, whereas IWE had an odds ratio of 0.0984. The finding that the results for the subindex Leaders Lead (LL) were nonsignificant may be a result of this counterintuitive outcome. When leaders take care of their employees, growing and mentoring them, and prepare them for their next position, those employees may develop an intent to leave to find a job that fits their improved skills. So, do poor leaders who do not demonstrate leadership balance the numbers with great leaders, resulting in a nonsignificant scale? This can be a confounding variable, as those leaving for another job in the federal government are included in turnover intention. Lastly, emotional exhaustion can also play a role in that even though the leaders are perceived to be effective employees leave due to burnout (Bartram, 2012l; Jyoti et al., 2015).

While IWE shared an inverse or negative relationship with intent to leave, and significance was $p = .055$, it failed to meet the more restrictive Bonferroni adjustment of .003. These nonsignificant results were not expected, as the literature indicated they were predictive of turnover intention (Grissom, 2012; Pitts et al., 2011). Even though people sometimes love their jobs they can reach the point of exhaustion or burnout as mentioned previously. The lack of significance could also be that this research examined all 13 subindices, and the variance was explained in other subindices. Other research may not have considered IWE in conjunction with the other 12 indices.

Poor Discriminant Ability

The variables of Supportive (SUP), Supervisor (S), Openness (OPEN), and Cooperativeness (COOP) were found to have poor discriminant ability to predict turnover

intention. Out of these, all except supervisor, were found to be positively related to turnover intention in logistic regression. The odds ratio (OR) of supportive and cooperative were relatively minor at 1.02 whereas the OR of openness was more significant at 1.15. The explanation could be very similar to that of the positive predictors that we have seen in the earlier section.

The variable of Supervisors was shown to have the predicted negative relationship with turnover intention and a significant OR of 0.87. Although this variable had a poor discriminant ability, it should be noted that it was negatively related to turnover intention in the logistic regression, with a p value of .001. Thus, this study would have had an additional significant result if it had not applied the ROC curve. Regardless of the statistical significance, from a practical standpoint, it is important to note that having a good supervisor reduces employee turnover intention.

Results of the Principal Component Analysis

As an additional step to understanding the underlying structure of the items related to the four significant predictors of turnover intention, viz. job satisfaction, global satisfaction, talent management and fairness, involved in the current study, a Principal Component Analysis (PCA) was conducted. The results showed “work environment” and “work value” were the two factors that explained turnover intention. It should be noted that these results are strongly related to Herzberg’s two factor theory of motivation (Herzberg et al, 1959). This theory explains that job satisfaction is a function of hygiene factors that are necessary to prevent dissatisfaction and motivators that contribute to satisfaction. Hygiene factors such as pay and benefits, company policy, relationships, supervision quality, job security, working conditions, and work/life balance are measured by the supported predictions of global satisfaction, talent management and fairness.

Motivators such as pay, achievement, promotion, growth, recognition, and responsibility are measured by the supported predictor of job satisfaction. The factor of work environment is similar to hygiene factor and work value is similar to motivators. Work environment is the dominant variable in explaining turnover intention. It is interesting to note that the results of the PCA return us to two factor theory, the theoretical foundation of the study.

Overall Conclusions

First, as indicated in Chapter 4, this study uncovered a strong relationship between the subindices and turnover intention. This is extremely important information for federal managers as they plan and strive to maintain their workforce; these managers and leaders need data to direct their retention efforts so they can keep their staff positions filled. Federal government agency workloads are seldom reduced because the number of staff employed to do the work decreases.

The second major finding from this study is that the relationship between indices and turnover intention are shown to be strongly related to the Job Satisfaction (JS) subindex and the Global Satisfaction Index (GSI). Although relatively few questions related to these indices, they demonstrated a strong impact. Eight subindices —i.e., Leaders Lead (LL), Results-Oriented Performance Culture (ROPC), Leadership and Knowledge Management (LKM), Talent Management (TM), Job Satisfaction (JS), Global Satisfaction Index (GSI), Empowerment (EMP), and Fairness (FAIR) — showed an acceptable level of discrimination. Of these eight subindices, only four— Talent Management (TM), Job Satisfaction (JS), Global Satisfaction Index (GSI), and Fairness (FAIR)—supported the hypotheses tested. Third, the control variables also appear to be influencing turnover intent and were found to be valid as controls. Moreover, the results suggested a relationship between employees' intentions to leave and their willingness

to disclose demographic information; in other words, many of the employees left demographic variables blank, possibly fearing identification.

The main scales—Employee Engagement Index (EEI), New Inclusion Quotient (NEW IQ), Global Satisfaction Index (GSI) and Human Capital Assessment and Accountability Framework (HCAAF)—were found to be so highly correlated that they can be perceived as interchangeable. This study explored the main indices through their subindices due to the high levels of correlation among the main scales. Thus, the model was found to be valid in predicting turnover intention and intent to stay. In hypothesis testing, the relationship between subindices and turnover intention was shown to be most strongly related to Global Satisfaction (GSI) and Job Satisfaction (JS). The results of the principal component analysis reinforced the importance of work environment and work value in reducing turnover intention.

Limitations

The sample population for this study was limited to executive branch federal government employees, so the findings reflect the views of federal employees only, constituting one limitation of this study. Therefore, extrapolation to nonfederal employees should be done with caution. Moreover, this research did not address the military, postal service, quasi-federal agencies, federal corporations, federal contractors, or non-appropriated-fund entities' employees.

Employing a conservative listwise selection decreased the total number of cases from 435,040 to 328,029 at the final step of the regression analysis. This overall decrease of 107,011 cases may decrease generalizability.

Another limitation of this research is the data do not indicate a direct linkage between individual responses on the FEVS and an individual's continued employment status with the

agency. This limitation is reflective of the data available to supervisors, who are not aware of any one individual's responses to the survey.

Efforts to protect responding employees' privacy, such as keeping the results anonymous and masking demographics to prevent identification, may not be successful in reducing employees' concerns about self-identification when answering questions about their supervisor, such as "My supervisor treats me with respect" and "Overall, how good of a job do you feel is being done by your immediate supervisor?" This may be related to the patterns of unanswered questions discussed previously. The pattern of unanswered questions could also be due to the length of the survey (98 questions).

Also, the data reflect self-reported factors, so social desirability bias may have impacted the results. The FEVS survey is the only instrument used, making common method bias, in which the relationships between variables of interest are influenced by the single source of data to measure the variables, a limitation.

The data in this study represent a single point in time in 2017, and events such as the COVID-19 pandemic and movements like Black Lives Matter may have prompted federal employees to reconsider their priorities, resulting in a shift in which factors were related to turnover intention. The shutdown of the federal government due to budgets not being passed, the highly contested Presidential election along with COVID-19 and the social and racial injustices may impact FEVS data as well.

Cross-sectional data prevents claiming causality for certain, which constitutes another limitation of this study. However, the inclusion of several control variables adds to the strength of relationships found between the IVs and intent to leave.

The process of eliminating questions that demonstrated high collinearity and removal of the "other" category for turnover intention (which included intention to retire) resulted in a change to some demographics, as noted in the section on final variables in Chapter 4. This change in demographics impacted results related to tenure categories, vacant responses, and education level less than bachelor's degree. Therefore, generalizations based on those demographics should be made with caution.

Managers in the field may experience difficulty when trying to replicate the quick and easy feel for understanding drivers of intent to leave that the FEVS general reports provide. Caution should be used by managers in employing the unmodified global and job satisfaction scales when trying to influence turnover intent. The results of the current study do not support the use of the unmodified scales, as doing so may not produce the desired results. The unmodified scales include questions that were highly correlated with other scales, so any attempt to influence those questions could have impacts on other scales as well.

Another limitation of the current research is that the receiver operating characteristics (ROC) curve addressed main variables but not controls. The ROC is used to examine specificity and sensitivity and, therefore, was more appropriate to the scale variables.

Lastly, this research by design uses only FEVS indices distributed to employees in the federal government and is not reflective of other indices created from or for FEVS data by other researchers. The focus is limited to the expressed intent to leave federal employment for other employment. Researcher positionality may be an issue, as I am a federal government employee and have extensive experience in the private sector. Although this did not affect the regression results, this could have impacted the interpretation of the results with the interpretation being influenced by my desire for the FEVS data to be more useful within the federal government.

Recommendations and Implications

This study of all 13 subindices of the full FEVS public data set has implications for both practice and theory and resulted in recommendations for practice and future research. The next two sections provide this information.

Recommendations and Implications for Theory

One of the two main foundations in the theoretical model is Herzberg's two-factor theory, which posits that employee satisfaction is a function of hygiene factors and motivators. The absence of hygiene factors creates dissatisfaction; however, the mere presence of these factors does not create satisfaction. Indeed, it is the motivational factors, such as achievement, growth, and recognition, that create motivation. The results of my study validate Herzberg's theory. Turnover intention was influenced by both hygiene factors and motivators. The two principal components (work environment and work value) that emerged validate this theory even more.

From a theoretical perspective, the two dimensions of work environment and work value resonate strongly with Herzberg. Some FEVS subindices, such as Job Satisfaction (JS), Global Satisfaction (GSI), Fairness (FAIR) and Talent Management (TM), were found to align with and support Herzberg's motivation and hygiene factors. Job satisfaction found employees who were satisfied with their jobs were less likely to express an intent to leave. Job satisfaction was related to five questions that focused the scale on the work itself, advancement and working conditions. General (global) satisfaction consisted of three questions focused on pay satisfaction and satisfaction with the organization. These subindices that were significant and had acceptable discriminant ability were also related to Herzberg's two-factor theory, as shown in Table 5.1.

Table 5.1

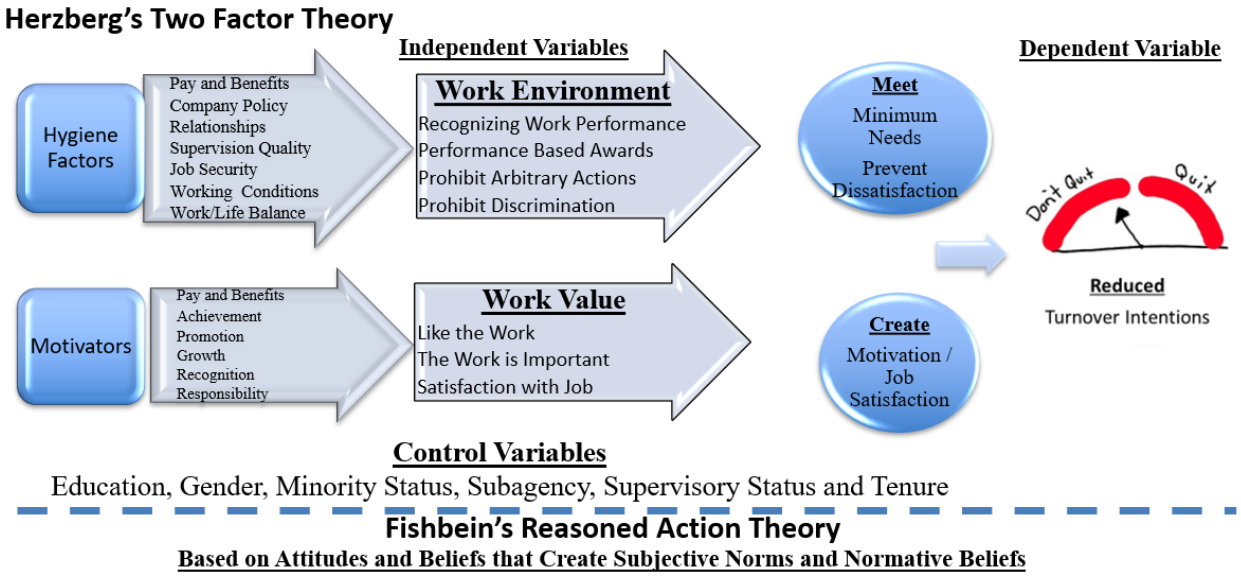
Items and Subscales That Align and Their Relationship to Herzberg Regarding Relationship to Intent

Hertzberg Motivation	**FEVS**	**Herzberg Hygiene**	**FEVS**
Pay	GSI supported	Pay	GSI supported
Achievement		Working Conditions	JS, GSI supported
Recognition	-	Relationship with supervisor	FAIR supported
The work itself	JS supported	Interpersonal relationships	FAIR supported
Responsibility	-	Company Policies	FAIR supported
Advancement	JS supported	-	-
Possibility of Growth	TMI supported	-	-

In Figure 5.2, the conceptual model simplifies into work environment (closely aligned with hygiene factors) and work value (closely aligned with motivators) influencing turnover intention. The work environment includes the highest initially loading questions asking whether differences in performance are recognized, whether awards are based on performance, and whether arbitrary actions and discrimination are prohibited. The second concept that emerged was "work value." The three questions that loaded focused on liking their work, feeling work is important, and considering everything, satisfaction with job. The work environment's strongest principal component items pertained to fairness of awards, absence of arbitrary actions, and prevention of discrimination. This dimension corresponded to Herzberg's hygiene factors, and this must happen before any motivational factor to be effective. Increasing hygiene factors does not continuously increase value. Work value is associated with items such as satisfaction with job, affiliation for work, and perception of the significance of work.

Figure 5.2

Revised Theoretical Including Work Environment and Work Value



Controls (education, gender, minority status, subagency, supervisory status, and tenure) were found to be valid. The fact that the controls were significant indicates we do bring our past and our attitudes, beliefs, and norms, which are created through experiences, into the equation of what influences turnover intentions, as described in Fishbein's Theory of Reasoned Action.

Recommendations and Implications for Practice

Leaders and managers in the federal workforce strive to reduce turnover with varying degrees of success. Workforce planning, the workforce pipeline, and growing employees' skill sets for the future envisioned for the organization can be informed by an understanding of the factors that influence turnover intent. Turnover intent can also be used by workforce planners to help understand their own turnover rates. FEVS data are actively reviewed and considered to develop strategies to improve scores in the agencies, and they are also considered as part of the

process for determining best places to work (Partnership for Public Service, 2020). This study was focused on identifying subindices associated with turnover intentions. This information can be used to focus managers' attention away from the numerous questions on the FEVS and toward those items that are most frequently associated with turnover intention.

For a manager in the federal government, the results indicate focusing on maintaining a positive work environment and employees' perceptions of the value of their work will promote lower turnover intention. Creating a work environment in which individual performance is recognized, awards are based on performance, and arbitrary actions and discrimination are prohibited can be addressed at the organization level and at the individual unit level by the manager. These questions are perception-based; therefore, clarifying how performance is recognized and tying awards to performance would also be helpful. Federal managers' ability to create positive work environments can be negatively impacted by the government's policy that prohibits sharing performance ratings, performance awards, and the results of arbitrary actions and discriminatory actions as a measure to ensure employees' privacy. To overcome negative perceptions, education campaigns about process and aggregate numbers (related to awards and disciplinary actions) can be shared when appropriate. In addition, managers and leaders should conduct listening sessions to improve their understanding of employees' viewpoints so appropriate information can be shared to address concerns when possible. By taking a wholistic approach and conducting action planning using FEVS data (organizationally and at the local unit level), employees can see issues being addressed and be part of the solutions to these issues.

While the focus of the research was on variables that reduce turnover intention, these variables can also be seen as intent to stay. As managers desire for employees to stay in their

positions they can look at to these variables as an indication that as scores on these variables increase an employee's desire to stay in their position will increase.

Despite the lack of evidence on causation, managers can still look to the recommendations presented here as a basis for trying to influence intent to leave. First, managers should align employees' work with what they like to do, ensure employees know why their work is important, and involve employees in work decisions. Managers can invite employees to discuss their views on the organization, for example, by asking whether they consider the organization as a good place to work or whether they are satisfied with their pay. Additionally, managers need to be well-informed about their employees, and their employees' skill sets and competencies as well as their potential for growth and advancement in their current position in the organization, and then enable them to outgrow the position and move into a position they are now better suited for. Conversely if an employee has turnover intention, managers may see employees not responding well to the recommendations. Employees may express decreased levels of job and global satisfaction. They may also express not feeling the workplace is fair or that their talents are not being used well.

Understanding the "why" someone has intent can be very beneficial. Future qualitative research could expand the current findings significantly.

Implications for Future Research

It is important to examine the current findings with past research before considering the implications for future research. Researchers have found positive scores on the EEI and its indices lead to reduction in turnover intent (Bryne, 2017; Sibiya, 2014). In contrast, this study produced nonsignificant results for LL and IWE. However, the findings did show the S subindex was related to reduced turnover intent. This finding, related to one significant subindex and two

nonsignificant subindices, should encourage other researchers to consider the subindex in conjunction with all 13 subindices and control variables (education, gender, minority status, subagency, supervisory status, and tenure) in future research. The impact of supervisors compared to the impact of other subindices indicates this is useful for understanding the totality of influences on turnover intention but is not a primary factor.

Bryne (2017) focused on employee engagement and investigated what best measures engagement and its impact on turnover intention. The findings revealed that employee engagement was negatively related to turnover intentions when measured along with psychological meaningfulness, job specific resources, other resources, and transformational leadership. Bryne (2017) did mention the need to adjust the study models due to multicollinearity. Bryne found the Employee Engagement Index (EEI) more closely measured resources that influenced employee engagement and, therefore, impacted turnover intention. This researcher reported that examining other FEVS scales was beyond the scope of the research. In contrast, the current study found two of the three subindices that comprise the EEI—Leaders Lead (LL) and Intrinsic Work Experience (IWE)— to be nonsignificant predictors of intent.

I predicted that as participants' views of their leaders' effectiveness grew more positive, turnover intentions would decrease. However, I discovered that Leaders Lead (LL) was a nonsignificant predictor when using all subscales and controlling for education, gender, minority status, subagency, supervisory status, and tenure. Two questions remained in LL after reducing for multicollinearity. They are: "Overall, how good a job do you feel is being done by the manager directly above your immediate supervisor" and "I have a high level of respect for my organization's senior leaders?" The question and the wording may have contributed to lack of clarity which then led it to being not significant.

Intrinsic Work Experience (IWE) was predicted to have an inverse relationship with turnover intentions: as a participant's perception about their IWE increases, their turnover intentions should decrease. What was found in this research was that IWE was a nonsignificant predictor when using all subscales and controlling for education, gender, minority status, subagency, supervisory status, and tenure.

Prior research predicted that, as participants' ratings of their supervisor (S) increased, turnover intentions would decrease, which was proven to be correct (Bertelli, 2007). However, the level of discrimination in the ROC curve was not statistically acceptable.

The New Inclusion Quotient (NEW IQ) index, consisting of the Fairness (FAIR), Open (OPEN), Cooperative (COOP), Supportive (SUP), and Empowering (EMP) subindices, reduces turnover intentions, according to Sabharwal et al. (2018) and Fernandez et al. (2015). Specifically, employee empowerment was found to reduce turnover intention (Fernandez et al., 2015). Inclusive practices represented by Fairness, Openness, Cooperativeness, Supportiveness, and an Empowering approach, when controlled for minority status, supervisory role, and tenure, were found to reduce turnover intentions among federal employees in a study of lesbian, gay, bisexual, and transgender federal employees (Sabharwal et al., 2018). The current study results related to fairness support those of other researchers. However, the other new inclusion quotient subindices do not follow this research's predictions and other researchers' findings.

Prior research and the current study predicted that turnover intentions would decrease as Fairness (FAIR) increases, and, indeed, that is what the findings showed. Participants' views of their organization's environment as cooperative and supportive were significant but had a poor discriminant ability for prediction.

As Empowerment (EMP) increased, turnover intentions also increased. This was not predicted in prior research, nor was it predicted in the current study. As a possible explanation for this phenomenon, employees who feel empowered may not only feel so in their current position but may also feel able to find a new and better position elsewhere.

Both in the literature and in the current study, intent to leave was predicted to decrease as general satisfaction and job satisfaction increased (Fernandez et al., 2015; Lambert et al., 2001; Leider et al., 2016). Pitts et al. (2011) identified demographic factors, workplace satisfaction factors, and organizational/relational factors as important predictors of intent to leave. According to these researchers, workplace satisfaction has a major influence on turnover intention (Pitts et al., 2011). The current research findings confirm this.

The Human Capital Assessment and Accountability Framework (HCAAF) index is supported by the subindices Leadership and Knowledge Management (LKM), Results-Oriented Performance Culture (ROPC), Talent Management (TM), and Job Satisfaction (JS), which were predicted to decrease turnover intention. As mentioned in the previous paragraph, job satisfaction followed this prediction. Increases in LKM and ROPC, were associated with an increase in turnover intentions. This raises interesting questions. Do these results indicate that good leadership and knowledge management results in the development of employees with good skill sets who can find better jobs elsewhere? Does a results-oriented performance culture encourage nonperformers to find employment elsewhere? TM, also part of HCAAF, was shown to be related to a decrease in turnover intention with an acceptable level of discrimination: in other words, as the TM subindex increases, turnover intention decreases.

Control variables were all significant, as predicted by prior research. Turnover intent is impacted by age (Ertas, 2015; Lambert et al., 2001; Pitts et al., 2011; Sibiya, 2014), gender

(Choi, 2013; Lambert et al., 2001; Leider et al., 2016), minority status (Choi, 2013; Sabharwal et al., 2018; Sibiya, 2014), tenure (Lambert et al., 2001; Sabharwal et al., 2018; Sibiya, 2014), and supervisory role (Sabharwal et al., 2018).

Now that we have seen the relationship between the results of the current study and prior research, it is appropriate to examine the implications for future research. Given the very interesting findings of the study several exciting research possibilities are presented.

This research demonstrated a strong relationship between job and global satisfaction with turnover intent using a logistic regression in the executive branch of the federal government. Future research should investigate the same relationship in other organizations including the private sector. Federal government agencies that are excluded from this research can also try to understand the factors that contribute to turnover in their organizations. It should be noted, however, that many of the predictors of turnover are highly correlated, posing a multicollinearity threat to researchers who want to use powerful predictive models using multiple regression. While this can be a challenge, it also poses exciting possibilities to understand how organizations can reduce turnover through employee centered human resources practices (Kang, et al., 2021; Tumwesigye et al., 2020).

The FEVS data is a cornucopia of information for researchers who want to study the complex interplay of variables that effect workplace outcomes such as jobs satisfaction, global satisfaction, and turnover intent. Instead of studying individual indices, such as employee engagement and talent management, future researchers should look at the totality of the indices after reducing the multicollinearity problem described in the preceding paragraph. With this large data set, power and variability can erroneously be attributed to a single variable of interest, if all the subindices are not considered.

In this study, only those variables that had negative relationship with turnover intention were included in the principal component analysis. Future studies should try to include variables with both positive and negative relationships and see how that may change the variability explained. Future research would benefit from examining all the underlying components of the FEVS data that effect employee outcomes. This would be an exciting project given the number of variables included in the FEVS survey as well as the number of agencies represented in the data set.

I recommend future research investigate the pattern of missing data regarding the demographic variables in the FEVS public file. This research uncovered a pattern of blank or vacant demographic responses beyond those that were masked to protect anonymity in the 2017 FEVS data. This may suggest a fear of identification among some respondents. While this issue was outside the scope of this research, it is a facet of the FEVS data that needs closer examination as it does not appear to have been evaluated in detail in the literature.

The current study also revealed an unexpected positive relationship between some variables and turnover intention, contrary to the literature. Participants who had a higher score for Empowering (EMP), Results-Oriented Performance Culture (ROPC), or Leadership and Knowledge Management (LKM) also reported positive turnover intention. This raises some interesting questions for future research about the unexpected consequences of employee empowerment, results oriented performance culture, and positive leadership. Future researchers are recommended to investigate how employees and organizations can outgrow each other. Employee turnover does not always have to be negative for the organizations or for the employees. Empowered employees who have limited growth opportunities for advancement should move on, instead of being frustrated in their current positions. Similarly, employees

whose priorities and performance results do not align with the expectations of their organizations should move on. Researchers must study this interesting facet of turnover, with employees on both sides of the performance spectrum leaving their organizations for greener pastures.

Conclusion

This research study has produced support for Herzberg's Two Factor Theory and Fishbein's Theory of Reasoned Action. This research has demonstrated the predictors of Job Satisfaction, Global Satisfaction, Talent Management and Fairness are associated with reduced Turnover Intention as predicted. The components that underlie these variables are Work Value and Work Environment, which further support the Theory of Reasoned Action. The variables with the most impactful odds ratios are Job and Global Satisfaction.

Support for Fishbein's Theory of Reasoned action was demonstrated by all demographic variables and subunit being found significant as control variables. The experiences we have, based on our demographics and where we work, are influential in determining turnover intention.

During this research, the data revealed implications for theory and practice. Additional research evaluating the variables that did not behave as predicted will lead to a greater understanding of turnover intentions. Leaders and managers can use this dissertation to better understand and influence turnover intention in their employees. Ensure your employees view you as fair and practicing talent management. Do your employees see you as meaningfully recognizing performance by giving awards based on performance? Do employees see you as clearly opposed to favoritism, arbitrary action, and discrimination? Encourage behaviors that strengthen perceptions of job and global satisfaction. Do your employees like their important work? This research reinforces the importance of distributive justice, good human resource

management practices, job satisfaction, and overall satisfaction. Managers need to pay attention to these variables to ensure a productive workplace.

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Appendix A

2017 Federal Employee Viewpoint Survey (FEVS) Questions

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. My work unit 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 would 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 provides me with opportunities to demonstrate my leadership skills.

44. Discussions with my supervisor about my performance are worthwhile.

45. My supervisor is committed to a workforce representative of all segments of society.

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

47. Supervisors in my work unit support employee development.

48. My supervisor listens to what I have to say.

49. My supervisor treats me with respect.

50. In the last six months, my supervisor has talked with me about my performance.

51. I have trust and confidence in my supervisor.

52. Overall, how good of a job do you feel your immediate supervisor is doing?

53. In my organization, senior leaders generate high levels of motivation and commitment in the workforce.

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

55. Supervisors work well with employees of different backgrounds.

56. Managers communicate the goals 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 of a job do you feel is being done by the manager directly above your immediate supervisor?
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. Have you been notified whether or not you are eligible to telework?
73. Please select the response below that BEST describes your current teleworking situation
74. Alternative Work Schedules (AWS)
75. Health and Wellness Programs (for example, exercise, medical screening, quit smoking programs)
76. Employee Assistance Program (EAP)
77. Child Care Programs (for example, daycare, parenting classes, parenting support groups)
78. Elder Care Programs (for example, support groups, speakers
79. Telework

80. Alternative Work Schedules (AWS)
81. Health and Wellness Programs (for example, exercise, medical screening, quit smoking programs)
82. Employee Assistance Program (EAP)
83. Child Care Programs (for example, daycare, parenting classes, parenting support groups)
84. Elder Care Programs (for example, support groups, speakers)
85. Where do you work?
86. What is your supervisory status?
87. Are you
88. Are you Hispanic or Latino?
89. Please select the racial category or categories with which you most closely identify (mark as many as apply).
90. What is the highest degree or level of education you have completed?
91. What is your pay category/grade?
92. How long have you been with the Federal Government (excluding military service)?
93. How long have you been with your current agency (for example, Department of Justice, Environmental Protection Agency)?
94. Are you considering leaving your organization within the next year, and if so, why?
95. I am planning to retire:
96. Do you consider yourself to be one or more of the following? (mark as many as apply).
97. What is your US military service status?
98. Are you an individual with a disability?

- Note Telework responses are not included in the public data release and demographic items are compressed into the following:
- Gender
- What is the highest degree or level of education you have completed?
- How long have you been with the federal government (excluding military service)?
- What is your supervisory status?
- Minority status?
- Are you considering leaving your organization within the next year, and if so, why?

Appendix B

Federal Employee Viewpoint Survey (FEVS) Indices

Employee Engagement Index (EEI; 3 subindices)

--Leaders Lead (LL; 5 items)

53. In my organization, senior leaders generate high levels of motivation and commitment in the workforce.

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

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

60. Overall, how good of a job do you feel is being done by the manager directly above your immediate supervisor?

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

--Supervisors (S; 5 items)

47. Supervisors in my work unit support employee development.

48. My supervisor listens to what I have to say.

49. My supervisor treats me with respect.

51. I have trust and confidence in my supervisor.

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

--Intrinsic Work Experience (IWE; 5 items)

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.

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

11. My talents are used well in the workplace.

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

Global Satisfaction Index (GSI; 4 items)

40. I would recommend my organization as a good place to work.

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?

New Inclusion Quotient Index (NEW IQ; 5 subindices)

--Fairness (FAIR; 5 items)

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.

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.

--Open (OPEN; 4 items)

32. Creativity and innovation are rewarded.

34. Policies and programs promote diversity in the workplace (for example, recruiting minorities and women, training in awareness of diversity issues, mentoring).

45. My supervisor is committed to a workforce representative of all segments of society.

55. Supervisors work well with employees of different backgrounds.

--Cooperative (COOP; 2 items)

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.

--Supportive (SUP; 5 items)

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

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

48. My supervisor listens to what I have to say.

49. My supervisor treats me with respect.

50. In the last six months, my supervisor has talked with me about my performance.

--Empowering (EMP; 4 items)

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.

11. My talents are used well in the workplace.

30. Employees have a feeling of personal empowerment with respect to work processes.

Human Capital Assessment and Accountability Framework (HCAAF) Index (4 subindices)

--Leadership and Knowledge Management (LKM; 12 items)

10. My workload is reasonable.

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

36. My organization has prepared employees for potential security threats.

51. I have trust and confidence in my supervisor.

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

53. In my organization, senior leaders generate high levels of motivation and commitment in the workforce.

55. Supervisors 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.

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

64. How satisfied are you with the information you receive from management on what's going on in your organization?

66. How satisfied are you with the policies and practices of your senior leaders?

--Results-Oriented Performance Culture (ROPC; 13 items)

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

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.

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

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.

30. Employees have a feeling of personal empowerment with respect to work processes.

32. Creativity and innovation are rewarded.

33. Pay raises depend on how well employees perform their jobs.

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

44. Discussions with my supervisor about my performance are worthwhile.

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

--Talent Management (TM; 7 items)

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

11. My talents are used well in the workplace.

18. My training needs are assessed.

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

29. The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals.

47. Supervisors in my work unit support employee development.

68. How satisfied are you with the training you receive for your present job?

--Job Satisfaction (JS; 7 items)

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

5. I like the kind of work I do.

13. The work I do is important.

63. How satisfied are you with your involvement in decisions that affect your work?

67. How satisfied are you with your opportunity to get a better job in your organization?

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

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

Appendix C

Federal Employee Viewpoint Survey (FEVS) Indices and Subindices with Questions, Items, and Scales

EEI (3 subindices: LL, S, IWE)

LL (5 items)	Item Name	Question	Scale	Additional Option
In my organization, senior leaders generate high levels of motivation and commitment in the workforce.	sldrmtvcommit	53	One	Do Not Know
My organization's senior leaders maintain high standards of honesty and integrity.	sldrhonestintegrity	54	One	Do Not Know
Managers communicate the goals and priorities of the organization.	mgrcommunicate	56	One	Do Not Know
Overall, how good of a job do you feel is being done by the manager directly above your immediate supervisor?	sprperformance	60	Three	Do Not Know
I have a high level of respect for my organization's senior leaders.	sldrrespect	61	One	Do Not Know

S (5 items)	Item Name	Question	Scale	Additional Option
Supervisors in my work unit support employee development.	sprempdev	47	One	Do Not Know
My supervisor listens to what I have to say.	sprlisten	48	One	n/a
My supervisor treats me with respect.	sprrespect	49	One	n/a
I have trust and confidence in my supervisor.	sprtrust	51	One	n/a
Overall, how good of a job do you feel is being done by your immediate supervisor?	sprjob	52	Three	n/a

IWE (5 items)	Item Name	Question	Scale	Additional Option
I feel encouraged to come up with new and better ways of doing things.	encourageimprove	3	One	n/a
My work gives me a feeling of personal accomplishment.	persnlaccomp	4	One	n/a
I know what is expected of me on the job.	jobexpect	6	One	n/a
My talents are used well in the workplace.	talentuse	11	One	Do Not Know
I know how my work relates to the agency's goals and priorities.	workimport	12	One	Do Not Know

GSI (4 items)	Item Name	Question	Scale	Additional Option
I would recommend my organization as a good place to work.	recommend	40	One	n/a
Considering everything, how satisfied are you with your job?	jobsat	69	Two	n/a
Considering everything, how satisfied are you with your pay?	paysat	70	Two	n/a
Considering everything, how satisfied are you with your organization?	orgsat	71	Two	n/a

NEW IQ (5 subindices: FAIR, OPEN, COOP, SUP, EMP)

FAIR (5 items)	Item Name	Question	Scale	Additional Option
In my work unit, steps are taken to deal with a poor performer who cannot or will not improve.	poorperf	23	One	Do Not Know
In my work unit, differences in performance are recognized in a meaningful way.	perfdiffs	24	One	Do Not Know

FAIR (5 items)	Item Name	Question	Scale	Additional Option
Awards in my work unit depend on how well employees perform their jobs.	awards	25	One	Do Not Know
Arbitrary action, personal favoritism, and coercion for partisan political purposes are not tolerated.	fairculture	37	One	Do Not Know
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.	prohibperspractice	38	One	Do Not Know

OPEN (4 items)	Item Name	Question	Scale	Additional Option
Creativity and innovation are rewarded.	creatinnov	32	One	Do Not Know
Policies and programs promote diversity in the workplace (for example, recruiting minorities and women, training in awareness of diversity issues, mentoring).	diversity	34	One	Do Not Know
My supervisor is committed to a workforce representative of all segments of society.	sprdiversity	45	One	Do Not Know
Supervisors work well with employees of different backgrounds.	sprdivwork	55	One	Do Not Know

COOP (2 items)	Item Name	Question	Scale	Additional Option
Managers promote communication among different work units (for example, about projects, goals, needed resources).	mgrcommun	58	One	Do Not Know
Managers support collaboration across work units to accomplish work objectives.	mgrcollab	59	One	Do Not Know

SUP (5 items)	Item Name	Question	Scale	Additional Option
My supervisor supports my need to balance work and other life issues.	sprworklife	42	One	Do Not Know
My supervisor provides me with constructive suggestions to improve my job performance.	sprconstperf	46	One	Do Not Know
My supervisor listens to what I have to say.	sprlisten	48	One	n/a
My supervisor treats me with respect.	sprrespect	49	One	n/a
In the last six months, my supervisor has talked with me about my performance.	sprtlkperf	50	One	n/a

EMP (4 items)	Item Name	Question	Scale	Additional Option
I have enough information to do my job well.	information	2	One	n/a
I feel encouraged to come up with new and better ways of doing things.	encourageimprove	3	One	n/a
My talents are used well in the workplace.	talentuse	11	One	Do Not Know
Employees have a feeling of personal empowerment with respect to work processes.	persempower	30	One	Do Not Know

Human Capital Assessment and Accountability Framework (4 subindices: LKM, ROPC, JS, TM)

LKM (12 items)	Item Name	Question	Scale	Additional Option
My workload is reasonable.	workload	10	One	Do Not Know
Employees are protected from health and safety hazards on the job.	protected	35	One	Do Not Know
My organization has prepared employees for potential security threats.	security	36	One	Do Not Know
I have trust and confidence in my supervisor.	sprtrust	51	One	n/a
Overall, how good a job do you feel is being done by your immediate supervisor?	sprjob	52	Three	n/a
In my organization, senior leaders generate high levels of motivation and commitment in the workforce.	sldrmtvcommit	53	One	Do Not Know
Supervisors work well with employees of different backgrounds.	sprdivwork	55	One	Do Not Know
Managers communicate the goals and priorities of the organization.	mgrcommunicate	56	One	Do Not Know
Managers review and evaluate the organization's progress toward meeting its goals and objectives.	mgrgoalprog	57	One	Do Not Know
I have a high level of respect for my organization's senior leaders.	sldrrespect	61	One	Do Not Know
How satisfied are you with the information you receive from management on what's going on in your organization?	orginfor	64	Two	n/a

LKM (12 items)	Item Name	Question	Scale	Additional Option
How satisfied are you with the policies and practices of your senior leaders?	satpolicysldr	66	Two	n/a

ROPC (13 items)	Item Name	Question	Scale	Additional Option
I know how my work relates to the agency's goals and priorities.	workimport	12	One	Do Not Know
Physical conditions allow employees to perform their jobs well.	physical	14	One	Do Not Know
My performance appraisal is a fair reflection of my performance.	fairperf	15	One	Do Not Know
The people I work with cooperate to get the job done.	cooperate	20	One	n/a
Promotions in my work unit are based on merit.	meritpromo	22	One	Do Not Know
In my work unit, steps are taken to deal with a poor performer who cannot or will not improve.	poorperf	23	One	Do Not Know
In my work unit, differences in performance are recognized in a meaningful way.	perfdiffs	24	One	Do Not Know
Employees have a feeling of personal empowerment with respect to work processes.	persempower	30	One	Do Not Know
Creativity and innovation are rewarded.	creatinnov	32	One	Do Not Know
Pay raises depend on how well employees perform their jobs.	payraise	33	One	Do Not Know

ROPC (13 items)	Item Name	Question	Scale	Additional Option
My supervisor supports my need to balance work and other life issues.	sprworklife	42	One	Do Not Know
Discussions with my supervisor about my performance are worthwhile.	perfdiscworth	44	One	Do Not Know
How satisfied are you with the recognition you receive for doing a good job?	recognijob	65	Two	n/a

TM (7 items)	Item Name	Question	Scale	Additional Option
I am given a real opportunity to improve my skills in my organization.	improve	1	One	n/a
My talents are used well in the workplace.	talentuse	11	One	Do Not Know
My training needs are assessed.	tngasess	18	One	Do Not Know
My work unit is able to recruit people who possess the right skills.	recruitrt	21	One	Do Not Know
The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals.	accomplishgoal	29	One	Do Not Know
Supervisors in my work unit support employee development.	sprempdev	47	One	Do Not Know
How satisfied are you with the training you receive for your present job?	tngsat	68	Two	n/a

JS (7 items)	Item Name	Question	Scale	Additional Option
My work gives me a feeling of personal accomplishment.	persnlaccomp	4	One	n/a
I like the kind of work I do.	likework	5	One	n/a

JS (7 items)	Item Name	Question	Scale	Additional Option
The work I do is important.	workimport	13	One	Do Not Know
How satisfied are you with your involvement in decisions that affect your work?	satinvolvedec	63	Two	n/a
How satisfied are you with your opportunity to get a better job in your organization?	satbetterjob	67	Two	n/a
Considering everything, how satisfied are you with your job?	jobsat	69	Two	n/a
Considering everything, how satisfied are you with your pay?	paysat	70	Two	n/a

Notes: COOP = Cooperative; EEI = Employee Engagement Index; EMP = Empowering; FEVS = Federal Employee Viewpoints Survey; GSI = Global Satisfaction Index; HCAAF = Human Capital Assessment and Accountability Framework; IWE = Intrinsic Work Experience; JS = Job Satisfaction; LKM = Leadership and Knowledge Management; LL = Leaders Lead; NEW IQ = New Inclusion Quotient; ROPC = Results-Oriented Performance Culture; S = Supervisors; SUP = Supportive; TM = Talent Management.

Appendix D

Multicollinearity Reduction

Multiple Loading Reduction: Items present in more than one score were reduced, as shown in Table I.1

Table I.1

Phase One of Reduction

Variable Name		**Survey Questions**	**Duplicative Questions Removed**
Leaders Lead	LL	Q53, Q54, Q56, Q60, Q61	Q53, Q54
Supervisors	S	Q47, Q48, Q49, Q51, Q52	
Intrinsic Work Experience	IWE	Q3, Q4, Q6, Q11, Q12	Q3, Q11, Q12
Fair	FAIR	Q40, Q69, Q70, Q71	Q23
Open	OPEN	Q32, Q34, Q45, Q55	Q32
Cooperative	COOP	Q58, Q59	
Supportive	SUP	Q42, Q46, Q48, Q49, Q50	Q48, Q49
Empowering	EMP	Q2, Q3, Q11, Q30	Q11
Leadership and Knowledge Management	LKM	Q10, Q35, Q36, Q51, Q52, Q53, Q55, Q56, Q57, Q61, Q64, Q66	Q51, Q52, Q55, Q61
Results-Oriented Performance Culture	ROPC	Q12, Q14, Q15, Q20, Q22, Q23, Q24, Q30, Q32, Q33, Q42, Q44, Q65	Q30, Q42
Talent Management	TM	Q1, Q11, Q18, Q21, Q29, Q47, Q68	Q47
Job Satisfaction	JS	Q4, Q5, Q13, Q63, Q67, Q69, Q70	Q4, Q70
Global Satisfaction Index	GSI	Q40, Q69, Q70, Q71	

Note: all subindices are IV's and treated as scale measures

Following removal of questions that existed in more than one index, additional questions, as listed in Table I.2, were removed because high levels of multicollinearity remained. Collinearity at this stage was measured by examining correlations and VIFs.

Table I.2

Index Changes as Part of Addressing Collinearity

Variable Name	Survey Questions	Duplicative Questions Removed	Collinearity Removed
Leaders Lead	Q53, Q54, Q56, Q60, Q61	Q53, Q54	Q54, Q60
Supervisors	Q47, Q48, Q49, Q51, Q52		Q48, Q49, Q51
Intrinsic Work Experience	Q3, Q4, Q6, Q11, Q12	Q3, Q11, Q12	
Fair	Q40, Q69, Q70, Q71	Q23	
Open	Q32, Q34, Q45, Q55	Q32	
Cooperative	Q58, Q59		Q59
Supportive	Q42, Q46, Q48, Q49, Q50	Q48, Q49	Q46
Empowering	Q2, Q3, Q11, Q30	Q11	
Leadership and Knowledge Management	Q10, Q35, Q36, Q51, Q52, Q53, Q55, Q56, Q57, Q61, Q64, Q66	Q51, Q52, Q55, Q61	Q53, Q56, Q57, Q66
Results-Oriented Performance Culture	Q12, Q14, Q15, Q20, Q22, Q23, Q24, Q30, Q32, Q33, Q42, Q44, Q65	Q30, Q42	Q15, Q22. Q23, Q24, Q44, Q65
Talent Management	Q1, Q11, Q18, Q21, Q29, Q47, Q68	Q47	Q1, Q18
Job Satisfaction	Q4, Q5, Q13, Q63, Q67, Q69, Q70	Q4, Q70	
Global Satisfaction Index	Q40, Q69, Q70, Q71		

Note: all subindices are IV's and treated as scale measures

Questions Remaining After Redundancy and Collinearity Addressed

Table I.3 shows the subindices and the questions that remained relevant to them after the collinearity issues were addressed.

Table I.3

Index Questions Remaining in Final Scales

Variable Name	Survey Questions	Questions in Final Subindices
Leaders Lead	Q53, Q54, Q56, Q60, Q61	Q60, Q61
Supervisors	Q47, Q48, Q49, Q51, Q52	Q47, Q52
Intrinsic Work Experience	Q3, Q4, Q6, Q11, Q12	Q4, Q6
Fair	Q40, Q69, Q70, Q71	Q24, Q25, Q37, Q38
Open	Q32, Q34, Q45, Q55	Q34, Q45, Q55
Cooperative	Q58, Q59	Q58
Supportive	Q42, Q46, Q48, Q49, Q50	Q42, Q50
Empowering	Q2, Q3, Q11, Q30	Q2, Q3, Q30
Leadership and Knowledge Management	Q10, Q35, Q36, Q51, Q52, Q53, Q55, Q56, Q57, Q61, Q64, Q66	Q10, Q35, Q36, Q64
Results-Oriented Performance Culture	Q12, Q14, Q15, Q20, Q22, Q23, Q24, Q30, Q32, Q33, Q42, Q44, Q65	Q12, Q14, Q20, Q32, Q33
Talent Management	Q1, Q11, Q18, Q21, Q29, Q47, Q68	Q21, Q29, Q68
Job Satisfaction	Q4, Q5, Q13, Q63, Q67, Q69, Q70	Q5, Q13, Q63, Q67, Q69
Global Satisfaction Index	Q40, Q69, Q70, Q71	Q40, Q70, Q71

Note: all subindices are IV's and treated as scale measures

Collinearity Statistics with Main Scales

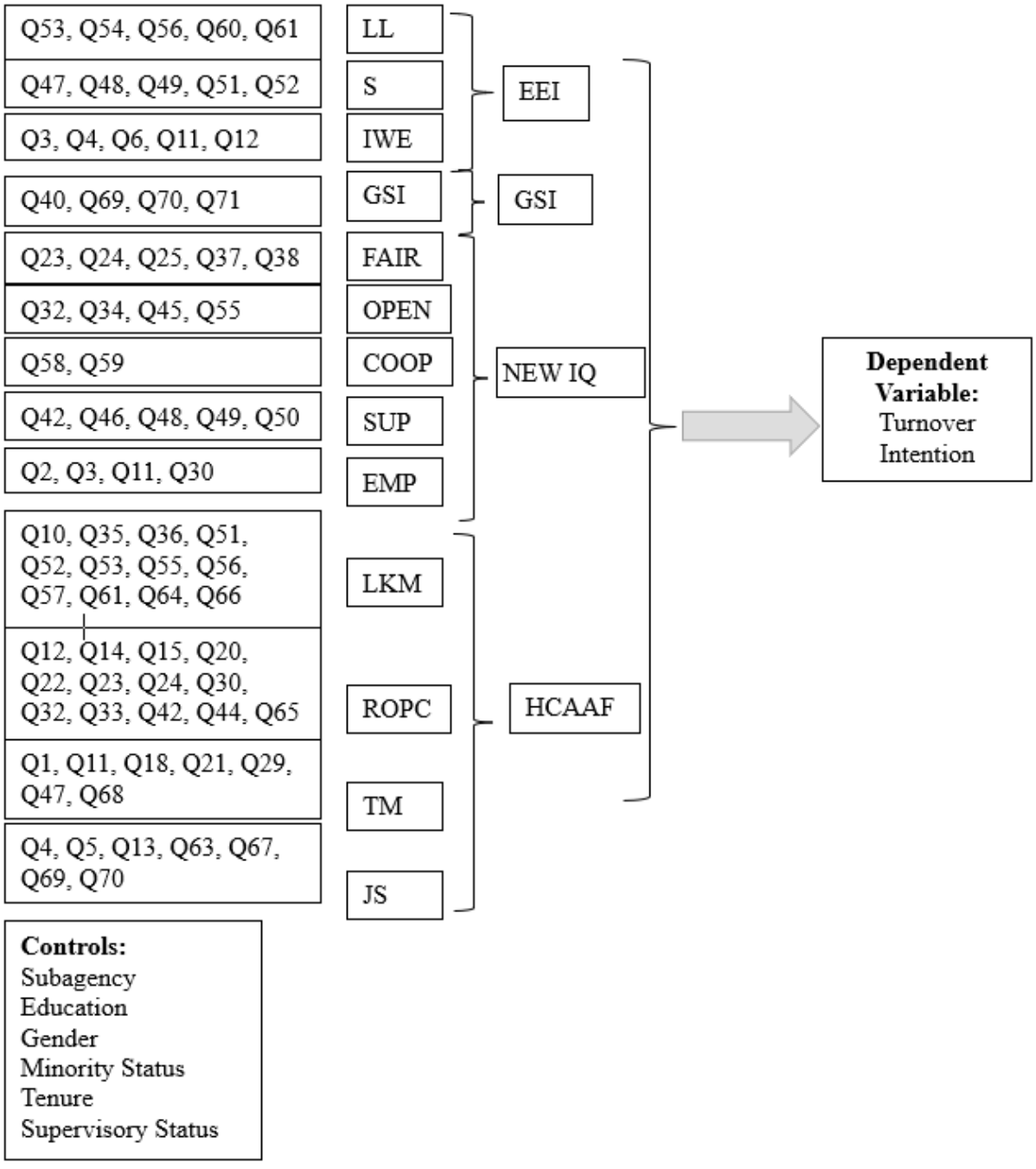
Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	**VIF**
1	(Constant)		
	Gender	.973	1.028
	Education	.954	1.048
	Tenure	.922	1.085
	Supervisory Status	.920	1.087
	Minority status	.983	1.017
2	(Constant)		
	Gender	.967	1.034
	Education	.949	1.054
	Tenure	.921	1.086
	Supervisory status	.904	1.106
	Minority status	.972	1.029
	Employee Engagement Index	.186	5.383
	New Inclusion Quotient	.145	6.884
	Global Satisfaction Index	.326	3.068
	Human Capital Assessment and Accountability Framework	.132	7.580

Notes: Dependent Variable: Intent; VIF = Variance Inflation Factor.

Appendix E

Expanded Evaluation Conceptual Model



Appendix F

2017 Federal Employee Viewpoint Survey (FEVS) Respondent Statistics

Agencies	Surveyed	Responded	Rate
Government-wide	1,068,151	486,105	45.50%
Very Large Agencies (>75,000 employees)			
Department of Agriculture	76,964	48,953	63.60%
Department of Defense Overall	233,526	70,693	30.30%
Department of the Air Force	68,379	16,899	24.70%
Department of the Army	68,348	21,850	32.00%
Department of the Navy	53,386	16,022	30.00%
OSD. Joint Staff, Defense Agencies, and Field Activities (DoD 4th Estate)	43,413	15,922	36.70%
Department of Health and Human Services	73,708	43,086	58.50%
Department of Homeland Security	96,776	47,414	49.00%
Department of Justice	46,003	16,126	35.10%
Department of the Treasury	79,744	46,368	58.10%
Department of Veterans Affairs	209,853	64,394	30.70%
Large Agencies (10,000–74,999 employees)			
Department of Commerce	19,473	10,480	53.80%
Department of Energy	12,575	8,589	68.30%
Department of Labor	14,779	8,837	59.80%
Department of State	13,658	4,294	31.40%
Department of the Interior	47,367	25,867	54.60%
Department of Transportation	30,272	16,835	55.60%
Environmental Protection Agency	14,066	9,414	66.90%
General Services Administration	10,749	7,532	70.10%
National Aeronautics and Space Administration	16,599	11,814	71.20%
Social Security Administration	18,371	8,501	46.30%
Medium Agencies (1,000–9,999 employees)			
Court Services and Offender Supervision Agency	1,116	542	48.60%
Department of Education	3,820	2,831	74.10%
Department of Housing and Urban Development	6,982	4,960	71.00%
Equal Employment Opportunity Commission	2,001	1,416	70.80%
Federal Communications Commission	1,462	715	48.90%
Federal Energy Regulatory Commission	1,360	1,070	78.70%
Federal Trade Commission	1,025	612	59.70%

National Archives and Records Administration	2,751	1,861	67.60%
National Credit Union Administration	1,144	665	58.10%
National Labor Relations Board	1,379	850	61.60%
National Science Foundation	1,192	910	76.30%
Nuclear Regulatory Commission	3,223	2,442	75.80%
Office of Personnel Management	4,966	2,914	58.70%
Securities and Exchange Commission	4,429	3,526	79.60%
Small Business Administration	2,045	1,512	73.90%
U.S. Agency for International Development	3,585	2,087	58.20%

Demographics

Agency Tenure		
Less than 1 year	16,541	4%
1–3 years	70,161	15%
4–5 years	38,042	8%
6–10 years	114,406	25%
11–20 years	119,221	26%
More than 20 years	100,411	22%

Age Group	Number Responded	Percentage
25 and under	3,897	1%
26–29	13,132	3%
30–39	91,851	19%
40–49	124,127	26%
50–59	172,679	36%
60 or older	79,326	16%
Generations		
Traditionalists (born 1945 or earlier)	3,951	1%
Baby Boomers (born 1946 to 1964)	208,915	43%
Generation X (born 1965 to 1980)	202,101	42%
Generation Y (born 1981 or later)	70,045	14%
Pay Category		
Federal Wage System	13,172	3%
GS 1–6	27,667	6%
GS 7–12	193,943	42%
GS 13–15	185,312	40%
Senior Executive Service	5,707	1%

Senior Level or Scientific or Professional	2,018	0%
Other	31,375	7%
Federal Tenure		
Less than 1 year	9,042	2%
1–3 years	45,504	10%
4–5 years	30,330	7%
6–10 years	109,299	24%
11–14 years	64,222	14%
15–20 years	66,740	14%
More than 20 years	135,145	29%
Agency Tenure		
Less than 1 year	16,541	4%
1–3 years	70,161	15%
4–5 years	38,042	8%
6–10 years	114,406	25%
11–20 years	119,221	26%
More than 20 years	100,411	22%
Turnover Plans		
No	317,645	69%
Yes, to retire	28,737	6%
Yes, to take another job within the federal government	71,128	15%
Yes, to take another job outside the federal government	19,504	4%
Yes, other	22,304	5%
Retirement Plans		
Within 1 year	17,266	4%
Between 1 and 3 years	47,569	10%
Between 3 and 5 years	51,613	11%
5 or more years	340,157	74%
Sexual Orientation		
Heterosexual or Straight	366,754	84%
Lesbian, Gay, Bisexual, or Transgender	13,633	3%
I prefer not to say	57,205	13%
Military Service Status		
No Prior Military Service	327,038	72%
Currently in National Guard or Reserves	7,450	2%
Retired	50,110	11%
Separated or Discharged	69,204	15%
Disability Status		
With a Disability	69,863	15%
No Disability Indicated	385,300	85%

Highest Level of Education Completed		
Less than High School	445	0%
High School Diploma/GED or Equivalent	19,622	4%
Trade or Technical Certificate	10,861	2%
Some College (no degree)	63,049	14%
Associate's Degree (e.g., AA, AS)	35,731	8%
Bachelor's Degree (e.g., BA, BS)	155,748	34%
Master's Degree (e.g., MA, MS, MBA)	119,940	26%
Doctoral/Professional Degree (e.g., PhD, MD, JD)	53,039	12%

AF **United States Department of the Air Force**

AG **Department of Agriculture**

AM **U.S. Agency for International Development**

AR **United States Department of the Army**

BG **Pension Benefit Guaranty Corporation**

BO **Office of Management and Budget**

CM **Department of Commerce**

CT **Commodity Futures Trading Commission**

CU **National Credit Union Administration**

DD **OSD, Joint Staff, Defense Agencies, and Field Activities**

DJ **Department of Justice**

DL **Department of Labor**

DN **Department of Energy**

DR **Federal Energy Regulatory Commission**

ED **Department of Education**

EE **Equal Employment Opportunity Commission**

EP **Environmental Protection Agency**

FC **Federal Communications Commission**

FQ **Court Services and Offender Supervision Agency**

FT **Federal Trade Commission**

GS **General Services Administration**

HE **Department of Health and Human Services**

HS **Department of Homeland Security**

HU **Department of Housing and Urban Development**

IB **Broadcasting Board of Governors**

IN **Department of the Interior**

NF **National Science Foundation**

NL **National Labor Relations Board**

NN **National Aeronautics and Space Administration**

NQ **National Archives and Records Administration**

NU **Nuclear Regulatory Commission**

NV **United States Department of the Navy**

OM **Office of Personnel Management**

RR **Railroad Retirement Board**

SB **Small Business Administration**

SE **Securities and Exchange Commission**

SN **National Gallery of Art**

ST **Department of State**

SZ **Social Security Administration**

TD **Department of Transportation**

TR **Department of the Treasury**

VA **Department of Veterans Affairs**

XX All Other Agencies

LEVEL1 Codes (one level below agency)

AF0J AET - Air Education & Training Command

AF0M AFR - HQ Air Force Reserve Command

AF1C ACC - Air Combat Command

AF1L AMC - Air Mobility Command

AF1M MTC - Air Force Materiel Command

AF1S SPC - HQ Air Force Space Command

AFGS GBS - Global Strike Command

AFZZ United States Department of the Air Force, All Other

AG01 Farm and Foreign Agricultural Services (FFAS)

AG04 Food Safety

AG05 Natural Resources and Environment (NRE)

AG07 Food, Nutrition and Consumer Services (FNCS)

AG09 Rural Development (RD)

AG10 Research, Education and Economics (REE)

AG14 Marketing and Regulatory Programs (MRP)

AG15 Departmental Management

AG25 Office of The Chief Financial Officer

AGZZ Department of Agriculture, All Other

AMZZ U.S. Agency for International Development, All Other

AR2A Army Cyber Command / 2nd Army

ARAE Army Acquisition Support Center

ARBA Army Installation Management Command

ARCE U.S. Army Corps of Engineers

ARFC Army Forces Command

ARHQ Headquarters, Department of the Army

ARHR Army Reserve Command

ARK0 Army Civilian Human Resources Agency

ARMC Army Medical Command

ARTC Army Training and Doctrine Command

ARX0 Army Materiel Command

ARZZ United States Department of the Army, All Other

BGZZ Pension Benefit Guaranty Corporation, All Other

BOZZ Office of Management and Budget, All Other

CM03 Census Bureau

CM06 International Trade Administration

CM08 National Institute of Standards and Technology

CM09 National Oceanic and Atmospheric Administration

CM14 U.S. Patent & Trademark Office

CMZZ Department of Commerce, All Other

CTZZ Commodity Futures Trading Commission, All Other

CUZZ National Credit Union Administration, All Other

DD01 Washington Headquarters Services

DD04 DISA

DD07 Defense Logistics Agency

DD10 DCAA

DD26 Office of the Inspector General

DD27 Missile Defense Agency

DD34 DECA

DD35 DFAS

DD60 Defense Health Agency

DD63 Defense Contract Management Agency

DDJS Joint Staff

DDZZ OSD, Joint Staff, Defense Agencies, and Field Activities, All Other

DJ02 Federal Bureau of Investigation

DJ03 Bureau of Prisons

DJ08 U.S. Marshals Service

DJ09 Office of The U S Attorneys

DJ11 USTP

DJ15 Bureau of Alcohol, Tobacco, Firearms and Explosives

DJEA DEA

DJHH Civil Division

DJLL Environment and Natural Resource Division

DJZZ Department of Justice, All Other

DL02 Employment and Training Administration

DL03 Bureau of Labor Statistics

DL04 Mine Safety and Health Administration

DL05 Employee Benefits Security Administration

DL06 Occupational Safety and Health Administration

DL09 Office of Workers' Compensation Programs

DL10 Wage & Hour Division

DL11 Office of the Solicitor

DLZZ Department of Labor, All Other

DN10 Office of The Secretary and Departmental Offices

DN11 Under Secretary for Management & Performance

DN12 Under Secretary for Science & Energy

DN13 Under Secretary for Nuclear Security

DN14 Power Marketing Administrations

DRZZ Federal Energy Regulatory Commission, All Other

ED03 Office for Civil Rights

ED12 Federal Student Aid

EDZZ Department of Education, All Other

EEZZ Equal Employment Opportunity Commission, All Other

EP02 Office of Air and Radiation

EP05 Office of Chemical Safety and Pollution Prevention

EP06 Office of Enforcement and Compliance Assurance

EP11 Office of Research and Development

EP13 Office of Water

EP14 REGION 01

EP15 REGION 02

EP16 REGION 03

EP17 REGION 04

EP18 REGION 05

EP19 REGION 06

EP22 REGION 09

EPZZ Environmental Protection Agency, All Other

FCZZ Federal Communications Commission, All Other

FQZZ Court Services and Offender Supervision Agency, All Other

FTZZ Federal Trade Commission, All Other

GS03 Public Buildings Service (P)

GS53 FAS Commissioner

GSZZ General Services Administration, All Other

HE02 Administration for Children and Families

HE04 Centers for Disease Control & Prevention

HE05 Centers for Medicare and Medicaid Services

HE06 Food and Drug Administration

HE07 Health Resources and Services Administration

HE08 Indian Health Service

HE09 National Institutes of Health

HE10 Office of The Secretary

HE12 Office of Inspector General

HEZZ Department of Health and Human Services, All Other

HS01 Office of Dir Citizenship & Imm Svcs

HS02 U.S. Customs and Border Protection

HS03 United States Coast Guard

HS04 FEMA

HS05 Federal Law Enforcement Training Center (FLETC)

HS06 Immigration and Customs Enforcement (ICE)

HS09 Under Secretary for Management

HS10 NPPD

HS12 U.S. Secret Service

HS14 TSA

HSZZ Department of Homeland Security, All Other

HU07 Assistant Secretary for Community Planning and Development

HU13 Office of General Counsel

HU16 Assistant Secretary for Housing-FHA

HU19 Assistant Secretary for Public & Indian Housing

HUZZ Department of Housing and Urban Development, All Other

IBZZ Broadcasting Board of Governors, All Other

IN01 Bureau of Land Management

IN02 Bureau of Reclamation

IN03 Bureau of Indian Affairs

IN05 Geological Survey

IN06 National Park Service

IN07 Fish and Wildlife Service

IN14 Office of The Secretary of The Interior

IN15 Bureau of Safety and Environmental Enforcement

IN16 Bureau of Ocean Energy Management

INZZ Department of the Interior, All Other

NFZZ National Science Foundation, All Other

NLZZ National Labor Relations Board, All Other

NN10 Headquarters, NASA

NN21 Ames Research Center

NN22 John Glenn Research Center at Lewis Field

NN23 Langley Research Center

NN51 Goddard Space Flight Center

NN62 George C. Marshall Space Flight Center

NN72 Lyndon B. Johnson Space Center

NN76 John F. Kennedy Space Center

NNZZ National Aeronautics and Space Administration, All Other

NQZZ National Archives and Records Administration, All Other

NUZZ Nuclear Regulatory Commission, All Other

NV12 DON, Assistant for Administration

NV18 Bureau of Medicine and Surgery

NV19 Naval Air Systems Command

NV22 Chief of Bureau of Naval Personnel

NV24 Naval Sea Systems Command

NV25 Naval Facilities Engineering Command

NV27 U.S. Marine Corps

NV39 Space and Naval Warfare Systems Command

NV52 Commander, Navy Installations

NV60 U.S. Fleet Forces Command

NV70 U.S. Pacific Fleet Command

NV76 Naval Education and Training Command

NVZZ United States Department of the Navy, All Other

OM24 Nat'l Background Investigations Bureau

OMZZ Office of Personnel Management, All Other

RRZZ Railroad Retirement Board, All Other

SBZZ Small Business Administration, All Other

SE21 National Examination Program

SE22 National Enforcement Program

SEZZ Securities and Exchange Commission, All Other

SNZZ National Gallery of Art, All Other

STZZ Department of State, All Other

SZ01 Deputy Commissioner for Budget, Finance, Quality, & Management

SZ02 Deputy Commissioner for Operations

SZ06 Office of the General Counsel

SZ13 Deputy Commissioner for Disability Adjudication & Review

SZZZ Social Security Administration, All Other

TD03 Federal Aviation Administration (FAA)

TD04 FHWA

TDZZ Department of Transportation, All Other

TR91 Departmental Offices (DO)

TR93 Internal Revenue Service

TRAD United States Mint (MINT)

TRAI Bureau Of Engraving and Printing

TRAJ Office of the Comptroller of the Currency

TRCC Chief Counsel

TRFD Bureau Of the Fiscal Service

TRTG Treasury Inspector General for Tax Administration

TRZZ Department of the Treasury, All Other

VA01 VA Central Office

VA02 Veterans Health Administration

VA03 Veterans Benefits Administration

VAZZ Department of Veterans Affairs, All Other

XXZZ All Other Agencies, All Other

Appendix G

Institutional Review Board Approval Letter

February 8, 2021

Mr. James Jansen
401 Rosemont Ave.
Frederick, MD 21701

Dear Mr. Jansen,

The Hood College Institutional Review Board reviewed your proposal for the study entitled *"Predictors of Turnover Intent using Federal Employee Viewpoint Survey Indices"* (Proposal Number 2021-23). The committee approves this study for a period of 12 months. This approval is limited to the activities described in the procedure narrative and extends to the performance of these activities at each respective site identified in the IRB research proposal. This approval does not authorize you to recruit participants or conduct your study on site at other institutions. Should you decide you would like to systematically recruit participants and/or conduct your study on location at other institutions or facilities you will need to receive IRB approval from those organizations *prior* to any recruitment activities or data collection.

In addition, due to the current COVID 19 precautions, Hood's IRB is restricting all in-person (e.g. face-to-face) data collection with participants at this time. You may only recruit participants and collect data online. You are not authorized to meet with your participants for the purpose of data collection until notice from this IRB. In accordance with this approval, the specific conditions for the conduct of this research and informed consent from participants must be obtained as indicated.

All individuals engaged in human subjects research are responsible for compliance with all applicable Hood Research Policies:
https://www.hood.edu/sites/default/files/Hood%20IRB%20Policy%20revised%20September%202013.pdf.

The Lead Researcher of the study is ultimately responsible for assuring all study team members review and adhere to applicable policies for the conduct of human sciences research.

The Hood College IRB approval expiration date is February 8th, 2022. As a courtesy, approximately 30-60 days prior to expiration of this approval, it is your responsibility to apply for continuing review and receive continuing approval for the duration of the study as applicable. Lapses in approval should be avoided to protect the safety and welfare of enrolled participants.

No substantive changes are to be made to the approved protocol or the approved consent and assent forms without the prior review and approval of the Hood IRB. All substantive changes (e.g. change in procedure, number of subjects, personnel, study locations, study instruments, etc.) must be prospectively reviewed and approved by the IRB before they are implemented.

Sincerely,

Diane R. Graves, PhD
Chair, Hood College Institutional Review Board

Appendix H

Regression Results

Block 0: Beginning Block

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[a,b]

			Predicted		
			Are you considering leaving your organization within the next year, and if so, why?		Percentage Correct
	Observed		No	Yes	
Step 0	Are you considering leaving your organization within the next year, and if so, why?	No	257,575	0	100.0
		Yes	70,454	0	.0
	Overall Percentage				78.5

a. Constant is included in the model.
b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-1.296	.004	92 969.884	1	.000	.274

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	LEVEL1	8,804.100	194	0
		LEVEL1(1)	176.270	1	< .001
		LEVEL1(2)	32.176	1	< .001
		LEVEL1(3)	2.146	1	0.143
		LEVEL1(4)	185.380	1	< .001
		LEVEL1(5)	48.743	1	< .001
		LEVEL1(6)	4.856	1	0.028
		LEVEL1(7)	135.900	1	< .001
		LEVEL1(8)	647.620	1	< .001
		LEVEL1(9)	147.440	1	< .001
		LEVEL1(10)	64.313	1	< .001
		LEVEL1(11)	7.534	1	0.006
		LEVEL1(12)	16.039	1	< .001

Variable	Score	df	Sig.
LEVEL1(13)	50.697	1	< .001
LEVEL1(14)	2.954	1	0.086
LEVEL1(15)	0.089	1	0.765
LEVEL1(16)	0.109	1	0.741
LEVEL1(17)	1.969	1	0.161
LEVEL1(18)	0.850	1	0.357
LEVEL1(19)	104.140	1	< .001
LEVEL1(20)	16.200	1	< .001
LEVEL1(21)	142.630	1	< .001
LEVEL1(22)	1.632	1	0.201
LEVEL1(23)	8.538	1	0.003
LEVEL1(24)	77.793	1	< .001
LEVEL1(25)	80.570	1	< .001
LEVEL1(26)	55.616	1	< .001
LEVEL1(27)	169.39	1	< .001
LEVEL1(28)	51.238	1	< .001
LEVEL1(29)	241.240	1	< .001
LEVEL1(30)	203.770	1	< .001
LEVEL1(31)	0.0140	1	0.907

Variable	Score	df	Sig.
LEVEL1(32)	46.958	1	< .001
LEVEL1(33)	12.186	1	< .001
LEVEL1(34)	2.236	1	0.135
LEVEL1(35)	10.457	1	0.001
LEVEL1(36)	0.837	1	0.36
LEVEL1(37)	191.370	1	< .001
LEVEL1(38)	25.608	1	< .001
LEVEL1(39)	7.190	1	0.007
LEVEL1(40)	4.507	1	0.034
LEVEL1(41)	87.380	1	< .001
LEVEL1(42)	83.336	1	< .001
LEVEL1(43)	10.031	1	0.002
LEVEL1(44)	15.277	1	< .001
LEVEL1(45)	29.203	1	< .001
LEVEL1(46)	22.371	1	< .001
LEVEL1(47)	3.933	1	0.047
LEVEL1(48)	2.529	1	0.112
LEVEL1(49)	19.738	1	< .001
LEVEL1(50)	131.410	1	< .001

Variable	Score	df	Sig.
LEVEL1(51)	11.646	1	<.001
LEVEL1(52)	290.99	1	< .001
LEVEL1(53)	11.673	1	< .001
LEVEL1(54)	2.684	1	0.101
LEVEL1(55)	67.387	1	< .001
LEVEL1(56)	8.169	1	0.004
LEVEL1(57)	20.605	1	< .001
LEVEL1(58)	11.41	1	< .001
LEVEL1(59)	70.514	1	< .001
LEVEL1(60)	0.175	1	0.676
LEVEL1(61)	0.053	1	0.817
LEVEL1(62)	49.832	1	< .001
LEVEL1(63)	6.173	1	0.013
LEVEL1(64)	1.585	1	0.208
LEVEL1(65)	31.577	1	< .001
LEVEL1(66)	17.110	1	< .001
LEVEL1(67)	5.766	1	0.016
LEVEL1(68)	6.228	1	0.013
LEVEL1(69)	0.195	1	0.659

Variable	Score	df	Sig.
LEVEL1(70)	1.525	1	0.217
LEVEL1(71)	16.475	1	< .001
LEVEL1(72)	13.806	1	< .001
LEVEL1(73)	2.716	1	0.099
LEVEL1(74)	1.742	1	0.187
LEVEL1(75)	10.618	1	0.001
LEVEL1(76)	29.092	1	< .001
LEVEL1(77)	5.159	1	0.023
LEVEL1(78)	9.276	1	0.002
LEVEL1(79)	0.250	1	0.617
LEVEL1(80)	6.797	1	0.009
LEVEL1(81)	0.888	1	0.346
LEVEL1(82)	2.474	1	0.116
LEVEL1(83)	2.106	1	0.147
LEVEL1(84)	0.647	1	0.421
LEVEL1(85)	16.735	1	< .001
LEVEL1(86)	0.024	1	0.876
LEVEL1(87)	19.369	1	< .001
LEVEL1(88)	20.809	1	< .001

Variable	Score	df	Sig.
LEVEL1(89)	31.685	1	< .001
LEVEL1(90)	12.067	1	< .001
LEVEL1(91)	21.592	1	<.001
LEVEL1(92)	14.715	1	<.001
LEVEL1(93)	12.948	1	< .001
LEVEL1(94)	0.860	1	0.354
LEVEL1(95)	3.755	1	0.053
LEVEL1(96)	2.349	1	0.125
LEVEL1(97)	0.804	1	0.37
LEVEL1(98)	21.216	1	< .001
LEVEL1(99)	22.823	1	< .001
LEVEL1(100)	2.381	1	0.123
LEVEL1(101)	2.630	1	0.105
LEVEL1(102)	79.534	1	< .001
LEVEL1(103)	1.979	1	0.16
LEVEL1(104)	61.482	1	< .001
LEVEL1(105)	2.828	1	0.093
LEVEL1(106)	0.029	1	0.865
LEVEL1(107)	12.037	1	< .001

Variable	Score	df	Sig.
LEVEL1(108)	85.036	1	< .001
LEVEL1(109)	35.51	1	< .001
LEVEL1(110)	32.916	1	< .001
LEVEL1(111)	2.812	1	0.094
LEVEL1(112)	29.356	1	< .001
LEVEL1(113)	10.754	1	0.001
LEVEL1(114)	169.190	1	< .001
LEVEL1(115)	1.064	1	0.302
LEVEL1(116)	9.313	1	0.002
LEVEL1(117)	118.61	1	< .001
LEVEL1(118)	149.56	1	< .001
LEVEL1(119)	99.518	1	< .001
LEVEL1(120)	455.430	1	< .001
LEVEL1(121)	285.350	1	< .001
LEVEL1(122)	1.751	1	0.186
LEVEL1(123)	4.664	1	0.031
LEVEL1(124)	12.260	1	< .001
LEVEL1(125)	0.947	1	0.33
LEVEL1(126)	27.470	1	< .001

Variable	Score	df	Sig.
LEVEL1(127)	12.294	1	< .001
LEVEL1(128)	22.902	1	< .001
LEVEL1(129)	6.431	1	0.011
LEVEL1(130)	0.125	1	0.724
LEVEL1(131)	72.553	1	<.001
LEVEL1(132)	2.862	1	0.091
LEVEL1(133)	30.671	1	< .001
LEVEL1(134)	3.833	1	0.05
LEVEL1(135)	0.121	1	0.728
LEVEL1(136)	0.041	1	0.84
LEVEL1(137)	2.201	1	0.138
LEVEL1(138)	0	1	0.993
LEVEL1(139)	1.028	1	0.311
LEVEL1(140)	1.710	1	0.191
LEVEL1(141)	20.131	1	< .001
LEVEL1(142)	57.955	1	< .001
LEVEL1(143)	67.921	1	< .001
LEVEL1(144)	92.119	1	< .001
LEVEL1(145)	89.278	1	< .001

Variable	Score	df	Sig.
LEVEL1(146)	123.95	1	< .001
LEVEL1(147)	83.046	1	< .001
LEVEL1(148)	7.562	1	0.006
LEVEL1(149)	10.397	1	0.001
LEVEL1(150)	33.907	1	< .001
LEVEL1(151)	21.884	1	< .001
LEVEL1(152)	30.672	1	< .001
LEVEL1(153)	0.254	1	0.615
LEVEL1(154)	57.329	1	< .001
LEVEL1(155)	5.696	1	0.017
LEVEL1(156)	8.497	1	0.004
LEVEL1(157)	102.370	1	< .001
LEVEL1(158)	0.512	1	0.474
LEVEL1(159)	64.12	1	< .001
LEVEL1(160)	52.935	1	< .001
LEVEL1(161)	2.402	1	0.121
LEVEL1(162)	3.614	1	0.057
LEVEL1(163)	70.252	1	< .001
LEVEL1(164)	3.329	1	0.068

Variable	Score	df	Sig.
LEVEL1(165)	1.918	1	0.166
LEVEL1(166)	3.840	1	0.05
LEVEL1(167)	13.574	1	< .001
LEVEL1(168)	50.151	1	< .001
LEVEL1(169)	24.961	1	< .001
LEVEL1(170)	45.099	1	< .001
LEVEL1(171)	0.008	1	0.927
LEVEL1(172)	3.397	1	0.065
LEVEL1(173)	22.105	1	< .001
LEVEL1(174)	40.473	1	< .001
LEVEL1(175)	1.289	1	0.256
LEVEL1(176)	0.154	1	0.695
LEVEL1(177)	22.065	1	< .001
LEVEL1(178)	106.95	1	< .001
LEVEL1(179)	23.029	1	< .001
LEVEL1(180)	10.266	1	0.001
LEVEL1(181)	118.150	1	< .001
LEVEL1(182)	679.140	1	< .001
LEVEL1(183)	6.963	1	0.008

Variable	Score	df	Sig.
LEVEL1(184)	54.373	1	< .001
LEVEL1(185)	117.740	1	< .001
LEVEL1(186)	24.969	1	< .001
LEVEL1(187)	52.740	1	< .001
LEVEL1(188)	12.571	1	< .001
LEVEL1(189)	4.249	1	0.039
LEVEL1(190)	103.48	1	< .001
LEVEL1(191)	139.66	1	< .001
LEVEL1(192)	9.324	1	0.002
LEVEL1(193)	16.726	1	< .001
LEVEL1(194)	29.755	1	< .001
Are you:(1)	424.61	1	< .001
What is the highest degree or level of education you have completed?	926.490	2	< .001
What is the highest degree or level of education you have completed?(1)	8.919	1	0.003

Variable	Score	df	Sig.

What is the highest degree or level of education you have completed?(2)	709.990	1	< .001
How long have you been with the Federal Government (excluding military service)?	6,224.600	2	0
How long have you been with the Federal Government (excluding military service)?(1)	1.688	1	0.194
How long have you been with the Federal Government (excluding military service)?(2)	5403.400	1	0
What is your supervisory status?(1)	646.250	1	< .001
Minority status (coded from DRNO and DHISP)(1)	610.160	1	< .001
Overall Statistics	14,884	201	0

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	*df*	Sig.
Step 1	Step	15375.399	201	.000
	Block	15375.399	201	.000
	Model	15375.399	201	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell *R* Square	Nagelkerke R^2
	32591	.046	.071
	9.789[a]		

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Are you considering leaving your organization within the next year, and if so, why? No	Yes	Percentage Correct
Step 1	Are you considering leaving your organization within the next year, and if so, why?	No	257,200	375	99.9
		Yes	70,103	351	0.5
	Overall Percentage				78.5

Note: [a]The cut value is .500.

Variables in the Equation

Variable	*B*	*SE*	Wald	*df*	Sig.	Exp(B)	95% CI for EXP(B)	
							Lower	Upper
LEVEL1(1)	0.584	0.088	43.95	1	< .001	1.793	1.509	2.131
LEVEL1(2)	-0.002	0.090	0	1	0.984	0.998	0.837	1.190
LEVEL1(3)	-0.128	0.105	1.483	1	0.223	0.88	0.716	1.081
LEVEL1(4)	0.237	0.076	9.657	1	0.002	1.267	1.091	1.472
LEVEL1(5)	0.307	0.113	7.400	1	0.007	1.359	1.090	1.696
LEVEL1(6)	-0.015	0.128	0.014	1	0.906	0.985	0.767	1.265
LEVEL1(7)	0.093	0.077	1.453	1	0.228	1.097	0.944	1.276
LEVEL1(8)	-1.060	0.077	190.2	1	< .001	0.347	0.298	0.403
LEVEL1(9)	-0.814	0.085	90.624	1	< .001	0.443	0.375	0.524
LEVEL1(10)	-0.340	0.068	24.712	1	< .001	0.712	0.622	0.814
LEVEL1(11)	-0.142	0.112	1.605	1	0.205	0.867	0.696	1.081
LEVEL1(12)	-0.355	0.085	17.429	1	< .001	0.701	0.594	0.828
LEVEL1(13)	-0.571	0.079	51.785	1	< .001	0.565	0.483	0.660
LEVEL1(14)	-0.296	0.078	14.397	1	< .001	0.744	0.638	0.867
LEVEL1(15)	-0.084	0.125	0.454	1	0.500	0.919	0.720	1.174

Variable	*B*	*SE*	Wald	*df*	Sig.	Exp(B)	Lower	Upper

LEVEL1(16)	-0.093	0.133	0.486	1	0.486	0.911	0.702	1.183
LEVEL1(17)	-0.383	0.155	6.150	1	0.013	0.682	0.503	0.923
LEVEL1(18)	-0.464	0.093	25.151	1	< .001	0.629	0.524	0.754
LEVEL1(19)	0.766	0.132	33.665	1	< .001	2.152	1.661	2.788
LEVEL1(20)	0.200	0.143	1.961	1	0.161	1.222	0.923	1.617
LEVEL1(21)	0.473	0.09	27.398	1	< .001	1.605	1.344	1.916
LEVEL1(22)	-0.309	0.078	15.59	1	< .001	0.734	0.63	0.856
LEVEL1(23)	0.013	0.165	0.006	1	0.939	1.013	0.733	1.399
LEVEL1(24)	0.303	0.105	8.356	1	0.004	1.354	1.102	1.663
LEVEL1(25)	0.743	0.136	29.71	1	< .001	2.102	1.609	2.745
LEVEL1(26)	0.551	0.124	19.821	1	<.001	1.735	1.361	2.212
LEVEL1(27)	0.210	0.08	6.869	1	0.009	1.234	1.054	1.444
LEVEL1(28)	0.098	0.093	1.122	1	0.289	1.103	0.92	1.324
LEVEL1(29)	0.335	0.077	19.065	1	< .001	1.399	1.203	1.626
LEVEL1(30)	0.344	0.082	17.542	1	< .001	1.411	1.201	1.657
LEVEL1(31)	-0.465	0.168	7.672	1	0.006	0.628	0.452	0.873
LEVEL1(32)	0.464	0.164	8.026	1	0.005	1.59	1.154	2.192
LEVEL1(33)	-0.512	0.09	32.358	1	< .001	0.599	0.502	0.715
LEVEL1(34)	-0.024	0.173	0.019	1	0.892	0.977	0.696	1.371
Variable	***B***	***SE***	**Wald**	***df***	**Sig.**	**Exp(B)**	**Lower**	**Upper**

LEVEL1(35)	-0.666	0.128	26.885	1	< .001	0.514	0.400	0.661
LEVEL1(36)	-0.290	0.094	9.59	1	0.002	0.748	0.622	0.899
LEVEL1(37)	-1.410	0.096	216.44	1	< .001	0.244	0.202	0.294
LEVEL1(38)	0.051	0.107	0.228	1	0.633	1.052	0.854	1.297
LEVEL1(39)	0.023	0.172	0.018	1	0.893	1.023	0.731	1.434
LEVEL1(40)	-0.713	0.166	18.389	1	< .001	0.49	0.354	0.679
LEVEL1(41)	0.553	0.128	18.692	1	< .001	1.738	1.353	2.233
LEVEL1(42)	0.267	0.095	7.936	1	0.005	1.306	1.085	1.573
LEVEL1(43)	0.014	0.112	0.016	1	0.900	1.014	0.814	1.264
LEVEL1(44)	-0.232	0.081	8.124	1	0.004	0.793	0.676	0.930
LEVEL1(45)	0.182	0.126	2.077	1	0.15	1.199	0.937	1.535
LEVEL1(46)	0.007	0.116	0.004	1	0.952	1.007	0.802	1.264
LEVEL1(47)	0.153	0.152	1.017	1	0.313	1.166	0.865	1.570
LEVEL1(48)	-0.032	0.177	0.033	1	0.856	0.968	0.684	1.371
LEVEL1(49)	0.019	0.143	0.017	1	0.896	1.019	0.77	1.349
LEVEL1(50)	0.196	0.08	6.066	1	0.014	1.217	1.041	1.422
LEVEL1(51)	0.140	0.195	0.511	1	0.475	1.150	0.784	1.686
LEVEL1(52)	0.507	0.083	37.209	1	< .001	1.660	1.41	1.953
LEVEL1(53)	-0.654	0.113	33.675	1	< .001	0.520	0.417	0.649
Variable	***B***	***SE***	**Wald**	***df***	**Sig.**	**Exp(B)**	**Lower**	**Upper**

LEVEL1(54)	-0.194	0.085	5.255	1	0.022	0.824	0.698	0.972
LEVEL1(55)	-0.957	0.110	75.085	1	< .001	0.384	0.309	0.477
LEVEL1(56)	-0.475	0.103	21.421	1	< .001	0.622	0.509	0.760
LEVEL1(57)	-0.901	0.199	20.432	1	< .001	0.406	0.275	0.600
LEVEL1(58)	-0.541	0.138	15.363	1	< .001	0.582	0.444	0.763
LEVEL1(59)	-0.787	0.091	75.401	1	< .001	0.455	0.381	0.544
LEVEL1(60)	-0.419	0.227	3.419	1	0.064	0.657	0.422	1.025
LEVEL1(61)	-0.320	0.217	2.178	1	0.140	0.726	0.475	1.111
LEVEL1(62)	0.044	0.084	0.280	1	0.596	1.045	0.887	1.232
LEVEL1(63)	-0.165	0.143	1.328	1	0.249	0.848	0.640	1.123
LEVEL1(64)	-0.455	0.106	18.573	1	< .001	0.635	0.516	0.780
LEVEL1(65)	-0.870	0.136	41.118	1	< .001	0.419	0.321	0.546
LEVEL1(66)	0.047	0.17	0.075	1	0.784	1.048	0.750	1.463
LEVEL1(67)	-0.511	0.11	21.621	1	<.001	0.6	0.484	0.744
LEVEL1(68)	0	0.142	0	1	0.999	1	0.757	1.320
LEVEL1(69)	-0.455	0.121	14.097	1	< .001	0.634	0.500	0.804
LEVEL1(70)	-0.543	0.199	7.411	1	0.006	0.581	0.393	0.859
LEVEL1(71)	-0.025	0.098	0.067	1	0.796	0.975	0.805	1.181
LEVEL1(72)	-0.001	0.121	0	1	0.992	0.999	0.788	1.267
Variable	***B***	***SE***	**Wald**	***df***	**Sig.**	**Exp(B)**	**Lower**	**Upper**

LEVEL1(73)	-0.120	0.102	1.396	1	0.237	0.887	0.726	1.083
LEVEL1(74)	-0.186	0.097	3.677	1	0.055	0.831	0.687	1.004
LEVEL1(75)	-0.075	0.094	0.624	1	0.43	0.928	0.771	1.117
LEVEL1(76)	-0.589	0.09	42.805	1	< .001	0.555	0.465	0.662
LEVEL1(77)	-0.723	0.125	33.392	1	< .001	0.485	0.380	0.620
LEVEL1(78)	0.027	0.190	0.02	1	0.887	1.027	0.708	1.49
LEVEL1(79)	-0.430	0.127	11.382	1	< .001	0.651	0.507	0.835
LEVEL1(80)	-0.14	0.103	1.857	1	0.173	0.869	0.711	1.063
LEVEL1(81)	-0.438	0.106	17.107	1	< .001	0.645	0.524	0.794
LEVEL1(82)	-0.453	0.162	7.788	1	0.005	0.636	0.462	0.874
LEVEL1(83)	-0.479	0.190	6.384	1	0.012	0.619	0.427	0.898
LEVEL1(84)	0.011	0.220	0.003	1	0.96	1.011	0.658	1.555
LEVEL1(85)	-0.704	0.130	29.471	1	< .001	0.495	0.384	0.638
LEVEL1(86)	-0.318	0.225	1.993	1	0.158	0.728	0.468	1.131
LEVEL1(87)	-1.418	0.372	14.565	1	< .001	0.242	0.117	0.502
LEVEL1(88)	-1.070	0.230	21.666	1	< .001	0.343	0.218	0.538
LEVEL1(89)	-1.194	0.209	32.512	1	< .001	0.303	0.201	0.457
LEVEL1(90)	-0.747	0.179	17.343	1	< .001	0.474	0.333	0.673
LEVEL1(91)	-0.868	0.183	22.505	1	< .001	0.420	0.293	0.601
Variable	***B***	***SE***	**Wald**	***df***	**Sig.**	**Exp(B)**	**Lower**	**Upper**

LEVEL1(92)	-0.958	0.258	13.755	1	< .001	0.384	0.231	0.637
LEVEL1(93)	-0.970	0.253	14.726	1	< .001	0.379	0.231	0.622
LEVEL1(94)	-0.320	0.086	13.908	1	< .001	0.726	0.613	0.859
LEVEL1(95)	-0.583	0.167	12.192	1	< .001	0.558	0.402	0.774
LEVEL1(96)	-0.283	0.167	2.865	1	0.091	0.754	0.543	1.046
LEVEL1(97)	-0.547	0.165	11.009	1	< .001	0.579	0.419	0.800
LEVEL1(98)	-0.536	0.082	43.158	1	< .001	0.585	0.499	0.687
LEVEL1(99)	-0.599	0.096	38.741	1	< .001	0.549	0.455	0.663
LEVEL1(100)	-0.404	0.100	16.303	1	< .001	0.668	0.549	0.812
LEVEL1(101)	-0.346	0.128	7.305	1	0.007	0.707	0.550	0.909
LEVEL1(102)	-0.732	0.074	96.577	1	< .001	0.481	0.416	0.557
LEVEL1(103)	-0.489	0.08	37.18	1	< .001	0.613	0.524	0.718
LEVEL1(104)	-0.668	0.072	87.379	1	< .001	0.513	0.446	0.590
LEVEL1(105)	-0.326	0.099	10.879	1	< .001	0.722	0.595	0.876
LEVEL1(106)	-0.328	0.077	18.086	1	< .001	0.721	0.62	0.838
LEVEL1(107)	-0.450	0.071	39.701	1	< .001	0.637	0.554	0.733
LEVEL1(108)	0.123	0.087	1.987	1	0.159	1.131	0.953	1.341
LEVEL1(109)	-0.980	0.121	65.673	1	< .001	0.375	0.296	0.476
LEVEL1(110)	0.191	0.13	2.148	1	0.143	1.210	0.938	1.563
Variable	***B***	***SE***	**Wald**	***df***	**Sig.**	**Exp(B)**	**Lower**	**Upper**

LEVEL1(111)	-0.309	0.074	17.646	1	< .001	0.734	0.636	0.848
LEVEL1(112)	-0.140	0.069	4.12	1	0.042	0.869	0.759	0.995
LEVEL1(113)	-0.137	0.083	2.741	1	0.098	0.872	0.741	1.026
LEVEL1(114)	0.317	0.081	15.15	1	< .001	1.373	1.170	1.610
LEVEL1(115)	-0.323	0.154	4.378	1	0.036	0.724	0.535	0.98
LEVEL1(116)	-0.224	0.072	9.608	1	0.002	0.799	0.694	0.921
LEVEL1(117)	0.543	0.121	20.087	1	< .001	1.721	1.357	2.183
LEVEL1(118)	0.436	0.096	20.475	1	< .001	1.546	1.28	1.867
LEVEL1(119)	0.389	0.092	17.661	1	< .001	1.475	1.23	1.768
LEVEL1(120)	0.274	0.070	15.167	1	< .001	1.315	1.146	1.510
LEVEL1(121)	0.634	0.093	46.275	1	< .001	1.886	1.571	2.264
LEVEL1(122)	-0.132	0.196	0.458	1	0.498	0.876	0.597	1.285
LEVEL1(123)	-0.796	0.247	10.431	1	0.001	0.451	0.278	0.731
LEVEL1(124)	-0.581	0.105	30.372	1	< .001	0.559	0.455	0.688
LEVEL1(125)	-0.500	0.136	13.504	1	< .001	0.606	0.464	0.792
LEVEL1(126)	0.068	0.097	0.499	1	0.48	1.071	0.886	1.294
LEVEL1(127)	-0.719	0.127	32.134	1	< .001	0.487	0.38	0.625
LEVEL1(128)	0.020	0.081	0.061	1	0.805	1.020	0.871	1.195
LEVEL1(129)	-0.136	0.085	2.561	1	0.110	0.873	0.739	1.031
Variable	***B***	***SE***	**Wald**	***df***	**Sig.**	**Exp(B)**	**Lower**	**Upper**

LEVEL1(130)	-0.263	0.097	7.389	1	0.007	0.769	0.636	0.929
LEVEL1(131)	-0.662	0.085	60.37	1	< .001	0.516	0.436	0.609
LEVEL1(132)	-0.081	0.074	1.214	1	0.27	0.922	0.798	1.065
LEVEL1(133)	-0.453	0.08	32.281	1	< .001	0.636	0.544	0.743
LEVEL1(134)	-0.133	0.096	1.905	1	0.167	0.876	0.726	1.057
LEVEL1(135)	-0.280	0.187	2.247	1	0.134	0.756	0.524	1.090
LEVEL1(136)	-0.361	0.182	3.913	1	0.048	0.697	0.488	0.997
LEVEL1(137)	-0.121	0.147	0.679	1	0.41	0.886	0.664	1.182
LEVEL1(138)	-0.393	0.133	8.752	1	0.003	0.675	0.520	0.876
LEVEL1(139)	-0.408	0.143	8.091	1	0.004	0.665	0.502	0.881
LEVEL1(140)	-0.335	0.132	6.468	1	0.011	0.715	0.552	0.926
LEVEL1(141)	-1.158	0.208	31.006	1	< .001	0.314	0.209	0.472
LEVEL1(142)	-1.271	0.161	62.212	1	< .001	0.281	0.205	0.385
LEVEL1(143)	-1.331	0.162	67.603	1	< .001	0.264	0.192	0.363
LEVEL1(144)	-1.085	0.106	104.48	1	< .001	0.338	0.274	0.416
LEVEL1(145)	-0.979	0.109	80.312	1	< .001	0.376	0.303	0.465
LEVEL1(146)	-1.157	0.104	124.21	1	< .001	0.314	0.256	0.385
LEVEL1(147)	-1.162	0.118	96.782	1	< .001	0.313	0.248	0.394
LEVEL1(148)	-0.756	0.188	16.184	1	< .001	0.469	0.325	0.678
Variable	***B***	***SE***	**Wald**	***df***	**Sig.**	**Exp(B)**	**Lower**	**Upper**

LEVEL1(149)	-0.113	0.093	1.475	1	0.225	0.893	0.745	1.072
LEVEL1(150)	-0.740	0.092	64.513	1	< .001	0.477	0.398	0.572
LEVEL1(151)	0.324	0.17	3.624	1	0.057	1.383	0.99	1.932
LEVEL1(152)	0.262	0.125	4.37	1	0.037	1.299	1.016	1.661
LEVEL1(153)	-0.309	0.096	10.36	1	0.001	0.734	0.608	0.886
LEVEL1(154)	0.499	0.135	13.701	1	< .001	1.647	1.264	2.144
LEVEL1(155)	-0.158	0.094	2.848	1	0.091	0.853	0.710	1.026
LEVEL1(156)	-0.030	0.104	0.083	1	0.774	0.971	0.791	1.190
LEVEL1(157)	0.300	0.089	11.333	1	< .001	1.350	1.134	1.608
LEVEL1(158)	-0.296	0.144	4.212	1	0.04	0.744	0.561	0.987
LEVEL1(159)	0.487	0.11	19.61	1	< .001	1.627	1.312	2.019
LEVEL1(160)	0.202	0.096	4.400	1	0.036	1.223	1.013	1.477
LEVEL1(161)	-0.166	0.099	2.778	1	0.096	0.847	0.698	1.030
LEVEL1(162)	-0.203	0.134	2.284	1	0.131	0.816	0.627	1.062
LEVEL1(163)	0.228	0.094	5.845	1	0.016	1.256	1.044	1.511
LEVEL1(164)	-0.500	0.108	21.268	1	< .001	0.607	0.490	0.75
LEVEL1(165)	-0.209	0.105	3.969	1	0.046	0.812	0.661	0.997
LEVEL1(166)	-0.467	0.242	3.705	1	0.054	0.627	0.390	1.009
LEVEL1(167)	-0.027	0.099	0.073	1	0.787	0.974	0.802	1.182
Variable	***B***	***SE***	**Wald**	***df***	**Sig.**	**Exp(B)**	**Lower**	**Upper**

LEVEL1(168)	-1.636	0.188	75.661	1	< .001	0.195	0.135	0.282
LEVEL1(169)	-1.054	0.133	63.087	1	< .001	0.348	0.269	0.452
LEVEL1(170)	-0.988	0.108	83.887	1	< .001	0.372	0.301	0.460
LEVEL1(171)	-0.180	0.187	0.927	1	0.336	0.835	0.579	1.205
LEVEL1(172)	-0.369	0.079	21.719	1	< .001	0.691	0.592	0.807
LEVEL1(173)	-1.054	0.174	36.638	1	< .001	0.349	0.248	0.490
LEVEL1(174)	-0.613	0.082	56.439	1	< .001	0.542	0.462	0.636
LEVEL1(175)	-0.743	0.204	13.285	1	< .001	0.476	0.319	0.709
LEVEL1(176)	-0.366	0.105	12.204	1	< .001	0.693	0.565	0.852
LEVEL1(177)	-0.743	0.108	47.332	1	< .001	0.476	0.385	0.588
LEVEL1(178)	-0.510	0.070	52.591	1	< .001	0.601	0.523	0.689
LEVEL1(179)	-0.772	0.113	46.485	1	< .001	0.462	0.37	0.577
LEVEL1(180)	-0.167	0.086	3.784	1	0.052	0.846	0.715	1.001
LEVEL1(181)	0.358	0.104	11.827	1	< .001	1.431	1.166	1.754
LEVEL1(182)	-0.620	0.068	84.296	1	< .001	0.538	0.471	0.614
LEVEL1(183)	-0.416	0.128	10.536	1	0.001	0.660	0.513	0.848
LEVEL1(184)	-1.013	0.140	52.130	1	< .001	0.363	0.276	0.478
LEVEL1(185)	-1.085	0.095	130.720	1	< .001	0.338	0.281	0.407
LEVEL1(186)	-0.843	0.130	42.33	1	< .001	0.431	0.334	0.555
Variable	***B***	***SE***	**Wald**	***df***	**Sig.**	**Exp(B)**	**Lower**	**Upper**

LEVEL1(187)	-0.766	0.097	62.133	1	< .001	0.465	0.384	0.562
LEVEL1(188)	-0.945	0.224	17.765	1	< .001	0.389	0.250	0.603
LEVEL1(189)	-0.565	0.188	9.033	1	0.003	0.568	0.393	0.821
LEVEL1(190)	0.150	0.079	3.556	1	0.059	1.161	0.994	1.357
LEVEL1(191)	-0.202	0.066	9.377	1	0.002	0.817	0.718	0.930
LEVEL1(192)	-0.299	0.074	16.456	1	< .001	0.742	0.642	0.857
LEVEL1(193)	0.093	0.123	0.576	1	0.448	1.098	0.863	1.398
LEVEL1(194)	-0.100	0.081	1.519	1	0.218	0.905	0.773	1.060
Gender: (1)	-0.102	0.009	121.58	1	< .001	0.903	0.887	0.919
Education			859.42	2	< .001			
Education (1)	0.237	0.012	389.81	1	< .001	1.267	1.238	1.297
Education (2)	0.357	0.012	853.85	1	< .001	1.429	1.395	1.463
Tenure			3235	2	0			
Tenure (1)	-0.195	0.010	347.79	1	< .001	0.823	0.806	0.840
Tenure (2)	-0.709	0.012	3234.5	1	0	0.492	0.480	0.504
Supervisory Status(1)	-0.212	0.012	296.67	1	< .001	0.809	0.790	0.829
Minority Status (1)	-0.236	0.010	611.98	1	< .001	0.790	0.775	0.805
Constant	-0.766	0.066	136.24	1	< .001	0.465	-	-

Block 2: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	*df*	Sig.
Step 1	Step	67,398.994	13	.000
	Block	67,398.994	13	.000
	Model	82,774.393	214	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell *R* Square	Nagelkerke *R* Square
	258520.795[a]	.223	.345

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Classification Table[a]

			Predicted: Are you considering leaving your organization within the next year, and if so, why?		Percentage
	Observed		**No**	**Yes**	**Correct**
Step 1	Are you considering leaving your organization within the next year, and if so, why?	No	244,846	12,729	95.1
		yes	43,852	26,602	37.8
	Overall Percentage				82.8

a. The cut value is .500

Variables in the Equation

							95% C.I.for EXP(B)	
		B	***SE***	**Wald**	***df***	**Sig.**	**Exp(B)**	**Lower**	**Upper**
Step 1[a]	LEVEL1			5935.889	194	.000			
	LEVEL1(1)	.429	.101	18.067	1	< .001	1.536	1.260	1.872
	LEVEL1(2)	-.058	.102	.320	1	.572	.944	.772	1.154
	LEVEL1(3)	-.114	.119	.911	1	.340	.893	.707	1.127
	LEVEL1(4)	.126	.087	2.081	1	.149	1.134	.956	1.345
	LEVEL1(5)	.159	.130	1.507	1	.220	1.173	.909	1.512
	LEVEL1(6)	-.168	.146	1.319	1	.251	.846	.635	1.126
	LEVEL1(7)	.075	.088	.726	1	.394	1.078	.907	1.281
	LEVEL1(8)	-1.110	.086	165.427	1	< .001	.329	.278	.390
	LEVEL1(9)	-.939	.097	94.266	1	< .001	.391	.324	.473
	LEVEL1(10)	-.680	.078	76.146	1	< .001	.507	.435	.590
	LEVEL1(11)	-.146	.128	1.302	1	.254	.864	.672	1.111
	LEVEL1(12)	-.414	.097	18.417	1	< .001	.661	.547	.799
	LEVEL1(13)	-.861	.090	91.537	1	< .001	.423	.354	.504
	LEVEL1(14)	-.417	.089	21.953	1	< .001	.659	.554	.785
	LEVEL1(15)	-.086	.143	.360	1	.548	.918	.693	1.215
	LEVEL1(16)	-.340	.154	4.892	1	.027	.712	.527	.962
	LEVEL1(17)	-.656	.176	13.910	1	< .001	.519	.368	.733
	LEVEL1(18)	-.731	.105	48.295	1	< .001	.482	.392	.592
	LEVEL1(19)	.455	.154	8.780	1	.003	1.576	1.167	2.130
	LEVEL1(20)	.216	.164	1.750	1	.186	1.242	.901	1.711
	LEVEL1(21)	.417	.104	16.212	1	< .001	1.517	1.239	1.859
	LEVEL1(22)	-.262	.089	8.737	1	.003	.769	.647	.915
	LEVEL1(23)	.215	.188	1.314	1	.252	1.240	.858	1.791
	LEVEL1(24)	.475	.120	15.674	1	< .001	1.609	1.271	2.036
	LEVEL1(25)	.812	.155	27.632	1	< .001	2.253	1.664	3.051
	LEVEL1(26)	.665	.140	22.535	1	< .001	1.945	1.478	2.560
	LEVEL1(27)	.011	.092	.014	1	.907	1.011	.845	1.209
	LEVEL1(28)	.087	.106	.669	1	.413	1.091	.886	1.343
	LEVEL1(29)	.112	.088	1.625	1	.202	1.119	.942	1.329
	LEVEL1(30)	.331	.094	12.357	1	< .001	1.392	1.158	1.674
	LEVEL1(31)	-.474	.189	6.291	1	.012	.623	.430	.902

Variable	*B*	*SE*	Wald	*df*	Sig.	Exp(B)	Lower	Upper
LEVEL1(32)	.912	.182	25.013	1	< .001	2.489	1.741	3.558
LEVEL1(33)	-.669	.101	43.834	1	< .001	.512	.420	.624
LEVEL1(34)	-.488	.198	6.079	1	.014	.614	.417	.905
LEVEL1(35)	-.585	.143	16.647	1	< .001	.557	.421	.738
LEVEL1(36)	-.366	.106	11.789	1	< .001	.694	.563	.855
LEVEL1(37)	-1.452	.108	180.112	1	< .001	.234	.189	.289
LEVEL1(38)	.153	.123	1.555	1	.212	1.165	.916	1.482
LEVEL1(39)	-.619	.201	9.488	1	.002	.539	.363	.798
LEVEL1(40)	-.802	.188	18.255	1	< .001	.448	.310	.648
LEVEL1(41)	.518	.151	11.758	1	< .001	1.678	1.248	2.256
LEVEL1(42)	.111	.109	1.049	1	.306	1.118	.903	1.383
LEVEL1(43)	.067	.130	.267	1	.606	1.069	.829	1.378
LEVEL1(44)	-.216	.093	5.397	1	.020	.806	.672	.967
LEVEL1(45)	.085	.148	.333	1	.564	1.089	.815	1.455
LEVEL1(46)	-.299	.133	5.020	1	.025	.742	.571	.963
LEVEL1(47)	-.058	.174	.113	1	.737	.943	.670	1.327
LEVEL1(48)	-.186	.203	.842	1	.359	.830	.557	1.236
LEVEL1(49)	-.399	.165	5.863	1	.015	.671	.486	.927
LEVEL1(50)	.094	.091	1.054	1	.305	1.098	.918	1.314
LEVEL1(51)	.040	.224	.032	1	.857	1.041	.671	1.616
LEVEL1(52)	.340	.096	12.686	1	< .001	1.406	1.165	1.695
LEVEL1(53)	-.793	.128	38.586	1	< .001	.453	.352	.581
LEVEL1(54)	-.578	.096	35.889	1	< .001	.561	.465	.678
LEVEL1(55)	-1.183	.126	88.114	1	< .001	.306	.239	.392
LEVEL1(56)	-.487	.116	17.521	1	< .001	.614	.489	.772
LEVEL1(57)	-1.358	.225	36.438	1	< .001	.257	.166	.400
LEVEL1(58)	-.613	.157	15.354	1	< .001	.541	.398	.736
LEVEL1(59)	-.681	.103	43.889	1	< .001	.506	.414	.619
LEVEL1(60)	.187	.250	.559	1	.455	1.206	.738	1.969
LEVEL1(61)	.204	.242	.714	1	.398	1.226	.764	1.969
LEVEL1(62)	.086	.096	.809	1	.368	1.090	.903	1.315
LEVEL1(63)	-.349	.166	4.406	1	.036	.706	.509	.977
LEVEL1(64)	-.388	.119	10.585	1	.001	.678	.537	.857
LEVEL1(65)	-1.016	.150	45.728	1	< .001	.362	.270	.486
LEVEL1(66)	-.229	.199	1.316	1	.251	.796	.538	1.176
LEVEL1(67)	-.559	.124	20.439	1	< .001	.571	.448	.728
LEVEL1(68)	-.256	.164	2.423	1	.120	.774	.561	1.069

Variable	*B*	*SE*	Wald	*df*	Sig.	Exp(B)	Lower	Upper
LEVEL1(69)	-.574	.140	16.929	1	< .001	.563	.428	.740
LEVEL1(70)	-.348	.221	2.481	1	.115	.706	.458	1.089
LEVEL1(71)	-.243	.113	4.598	1	.032	.784	.628	.979
LEVEL1(72)	-.121	.141	.739	1	.390	.886	.673	1.167
LEVEL1(73)	-.279	.118	5.604	1	.018	.757	.601	.953
LEVEL1(74)	-.461	.111	17.325	1	< .001	.630	.507	.783
LEVEL1(75)	-.081	.108	.562	1	.454	.922	.746	1.140
LEVEL1(76)	-.662	.102	42.494	1	< .001	.516	.423	.629
LEVEL1(77)	-.326	.142	5.297	1	.021	.722	.547	.953
LEVEL1(78)	-.989	.217	20.810	1	< .001	.372	.243	.569
LEVEL1(79)	-.641	.147	19.001	1	< .001	.527	.395	.703
LEVEL1(80)	-.374	.118	10.032	1	.002	.688	.546	.867
LEVEL1(81)	-.618	.122	25.707	1	< .001	.539	.425	.685
LEVEL1(82)	-.631	.181	12.125	1	< .001	.532	.373	.759
LEVEL1(83)	-1.013	.213	22.607	1	< .001	.363	.239	.551
LEVEL1(84)	-.437	.261	2.805	1	.094	.646	.387	1.077
LEVEL1(85)	-.868	.146	35.155	1	< .001	.420	.315	.559
LEVEL1(86)	-.528	.248	4.530	1	.033	.590	.363	.959
LEVEL1(87)	-1.313	.396	11.004	1	< .001	.269	.124	.584
LEVEL1(88)	-1.368	.255	28.686	1	< .001	.255	.154	.420
LEVEL1(89)	-1.185	.226	27.408	1	< .001	.306	.196	.477
LEVEL1(90)	-.787	.199	15.590	1	< .001	.455	.308	.673
LEVEL1(91)	-1.039	.200	27.069	1	< .001	.354	.239	.523
LEVEL1(92)	-.982	.281	12.250	1	< .001	.375	.216	.649
LEVEL1(93)	-1.217	.273	19.857	1	< .001	.296	.173	.506
LEVEL1(94)	-.559	.098	32.577	1	< .001	.572	.472	.693
LEVEL1(95)	-.907	.189	22.970	1	< .001	.404	.279	.585
LEVEL1(96)	-.323	.186	2.997	1	.083	.724	.503	1.044
LEVEL1(97)	-.093	.185	.254	1	.614	.911	.634	1.309
LEVEL1(98)	-.540	.093	33.822	1	< .001	.583	.486	.699
LEVEL1(99)	-.369	.109	11.444	1	< .001	.691	.558	.856
LEVEL1(100)	-.347	.115	9.167	1	.002	.707	.565	.885
LEVEL1(101)	-.491	.146	11.371	1	< .001	.612	.460	.814
LEVEL1(102)	-.722	.085	72.726	1	< .001	.486	.412	.574
LEVEL1(103)	-.516	.092	31.818	1	< .001	.597	.499	.714
LEVEL1(104)	-.712	.081	76.751	1	< .001	.490	.418	.575
LEVEL1(105)	-.199	.113	3.123	1	.077	.820	.657	1.022

Variable	*B*	*SE*	Wald	*df*	Sig.	Exp(B)	Lower	Upper
LEVEL1(106)	-.495	.087	32.006	1	< .001	.610	.514	.724
LEVEL1(107)	-.354	.081	19.002	1	< .001	.702	.598	.823
LEVEL1(108)	-.092	.100	.841	1	.359	.912	.750	1.110
LEVEL1(109)	-.773	.136	32.265	1	< .001	.462	.354	.603
LEVEL1(110)	-.048	.151	.103	1	.748	.953	.709	1.280
LEVEL1(111)	-.181	.084	4.638	1	.031	.835	.708	.984
LEVEL1(112)	-.642	.079	66.312	1	< .001	.526	.451	.614
LEVEL1(113)	.023	.094	.060	1	.806	1.023	.851	1.231
LEVEL1(114)	.081	.093	.753	1	.386	1.084	.903	1.302
LEVEL1(115)	-.340	.178	3.663	1	.056	.712	.502	1.008
LEVEL1(116)	-.640	.083	59.670	1	< .001	.527	.448	.620
LEVEL1(117)	.346	.141	6.013	1	.014	1.413	1.072	1.863
LEVEL1(118)	.068	.113	.360	1	.549	1.070	.858	1.334
LEVEL1(119)	-.631	.108	34.453	1	< .001	.532	.431	.657
LEVEL1(120)	-.421	.081	27.207	1	< .001	.657	.561	.769
LEVEL1(121)	.447	.108	17.029	1	< .001	1.564	1.264	1.933
LEVEL1(122)	-.394	.221	3.189	1	.074	.674	.437	1.039
LEVEL1(123)	-.893	.282	10.049	1	.002	.410	.236	.711
LEVEL1(124)	-.851	.120	49.844	1	< .001	.427	.337	.541
LEVEL1(125)	-.775	.155	24.894	1	< .001	.461	.340	.625
LEVEL1(126)	-.109	.112	.957	1	.328	.896	.720	1.116
LEVEL1(127)	-1.465	.145	102.312	1	< .001	.231	.174	.307
LEVEL1(128)	-.188	.092	4.216	1	.040	.829	.692	.991
LEVEL1(129)	-.125	.097	1.677	1	.195	.882	.730	1.066
LEVEL1(130)	-.503	.110	20.903	1	< .001	.605	.487	.750
LEVEL1(131)	-.713	.096	55.214	1	< .001	.490	.406	.591
LEVEL1(132)	-.497	.084	34.595	1	< .001	.609	.516	.718
LEVEL1(133)	-.535	.090	34.967	1	< .001	.586	.491	.700
LEVEL1(134)	-.203	.110	3.414	1	.065	.816	.658	1.012
LEVEL1(135)	-.443	.213	4.322	1	.038	.642	.423	.975
LEVEL1(136)	-.399	.209	3.641	1	.056	.671	.446	1.011
LEVEL1(137)	-.117	.170	.476	1	.490	.890	.638	1.240
LEVEL1(138)	-.175	.150	1.363	1	.243	.839	.625	1.127
LEVEL1(139)	-.499	.164	9.313	1	.002	.607	.441	.836
LEVEL1(140)	.040	.152	.071	1	.790	1.041	.772	1.404
LEVEL1(141)	-1.137	.236	23.196	1	< .001	.321	.202	.509
LEVEL1(142)	-1.103	.182	36.596	1	< .001	.332	.232	.474

Variable	*B*	*SE*	Wald	*df*	Sig.	Exp(B)	Lower	Upper
LEVEL1(143)	-1.035	.177	34.017	1	< .001	.355	.251	.503
LEVEL1(144)	-.700	.119	34.523	1	< .001	.496	.393	.627
LEVEL1(145)	-.598	.122	24.192	1	< .001	.550	.433	.698
LEVEL1(146)	-.876	.116	56.794	1	< .001	.416	.331	.523
LEVEL1(147)	-.947	.133	50.439	1	< .001	.388	.299	.504
LEVEL1(148)	-.422	.211	4.007	1	.045	.656	.434	.991
LEVEL1(149)	-.385	.106	13.076	1	< .001	.680	.552	.838
LEVEL1(150)	-.899	.105	73.054	1	< .001	.407	.331	.500
LEVEL1(151)	.446	.199	5.040	1	.025	1.563	1.058	2.307
LEVEL1(152)	.062	.142	.192	1	.661	1.064	.806	1.404
LEVEL1(153)	-.321	.108	8.755	1	.003	.726	.587	.897
LEVEL1(154)	.372	.154	5.805	1	.016	1.451	1.072	1.963
LEVEL1(155)	-.262	.107	5.974	1	.015	.770	.624	.949
LEVEL1(156)	-.040	.118	.116	1	.734	.961	.762	1.211
LEVEL1(157)	.253	.102	6.104	1	.013	1.287	1.054	1.573
LEVEL1(158)	-.219	.162	1.816	1	.178	.803	.584	1.105
LEVEL1(159)	.268	.126	4.502	1	.034	1.307	1.021	1.675
LEVEL1(160)	.193	.109	3.124	1	.077	1.213	.979	1.502
LEVEL1(161)	-.182	.113	2.579	1	.108	.834	.668	1.041
LEVEL1(162)	-.130	.152	.736	1	.391	.878	.651	1.182
LEVEL1(163)	.288	.107	7.219	1	.007	1.334	1.081	1.646
LEVEL1(164)	-.613	.123	24.698	1	< .001	.542	.426	.690
LEVEL1(165)	-.090	.120	.561	1	.454	.914	.723	1.156
LEVEL1(166)	-.670	.274	5.989	1	.014	.512	.299	.875
LEVEL1(167)	-.427	.115	13.663	1	< .001	.653	.520	.818
LEVEL1(168)	-1.525	.210	52.917	1	< .001	.218	.144	.328
LEVEL1(169)	-.794	.145	29.822	1	< .001	.452	.340	.601
LEVEL1(170)	-.832	.122	46.544	1	< .001	.435	.343	.553
LEVEL1(171)	-.634	.217	8.548	1	.003	.531	.347	.811
LEVEL1(172)	-.589	.090	42.924	1	< .001	.555	.465	.662
LEVEL1(173)	-1.256	.194	41.859	1	< .001	.285	.195	.417
LEVEL1(174)	-.909	.093	95.503	1	< .001	.403	.336	.483
LEVEL1(175)	-.904	.230	15.379	1	< .001	.405	.258	.636
LEVEL1(176)	-.876	.120	53.196	1	< .001	.416	.329	.527
LEVEL1(177)	-.777	.122	40.306	1	< .001	.460	.362	.585
LEVEL1(178)	-.678	.080	71.598	1	< .001	.508	.434	.594
LEVEL1(179)	-.587	.129	20.734	1	< .001	.556	.432	.716

Variable	*B*	*SE*	Wald	*df*	Sig.	Exp(B)	Lower	Upper
LEVEL1(180)	-.185	.099	3.503	1	.061	.831	.685	1.009
LEVEL1(181)	.188	.122	2.395	1	.122	1.207	.951	1.533
LEVEL1(182)	-1.137	.077	217.555	1	< .001	.321	.276	.373
LEVEL1(183)	-.864	.147	34.343	1	< .001	.421	.316	.563
LEVEL1(184)	-1.104	.156	49.766	1	< .001	.332	.244	.451
LEVEL1(185)	-1.125	.107	111.374	1	< .001	.325	.263	.400
LEVEL1(186)	-1.016	.145	49.298	1	< .001	.362	.273	.481
LEVEL1(187)	-.756	.110	47.040	1	< .001	.470	.378	.583
LEVEL1(188)	-.652	.257	6.438	1	.011	.521	.315	.862
LEVEL1(189)	-.281	.214	1.722	1	.189	.755	.496	1.149
LEVEL1(190)	-.162	.091	3.166	1	.075	.850	.711	1.017
LEVEL1(191)	-.580	.075	59.131	1	< .001	.560	.483	.649
LEVEL1(192)	-.650	.084	59.641	1	< .001	.522	.443	.616
LEVEL1(193)	-.141	.144	.956	1	.328	.868	.654	1.152
LEVEL1(194)	-.108	.093	1.359	1	.244	.897	.748	1.076
Gender:(1)	-.114	.011	114.722	1	< .001	.892	.874	.911
Education			728.685	2	< .001			
Education (1)	.226	.014	272.588	1	< .001	1.253	1.220	1.287
Education (2)	.377	.014	728.684	1	< .001	1.458	1.419	1.499
Tenure			4,714.639	2	.000			
Tenure (1)	-.401	.012	1113.048	1	< .001	.669	.654	.685
Tenure (2)	-.970	.014	4,613.945	1	.000	.379	.369	.390
Suprvsry sta (1)	.234	.014	267.712	1	< .001	1.264	1.229	1.300
Minority sta (1)	-.307	.011	762.232	1	< .001	.736	.720	.752
IWE	-.017	.009	3.695	1	.055	.984	.967	1.000
EMP	.088	.010	76.647	1	< .001	1.092	1.071	1.114
FAIR	-.139	.008	271.433	1	< .001	.870	.856	.885
SUP	.029	.009	10.864	1	< .001	1.029	1.012	1.047
S	-.144	.008	303.815	1	< .001	.866	.852	.880
OPEN	.144	.009	243.575	1	< .001	1.154	1.134	1.176
COOP	.023	.006	13.628	1	< .001	1.023	1.011	1.035
LL	.004	.007	.302	1	.582	1.004	.990	1.018
ROPC	.197	.012	256.796	1	< .001	1.218	1.189	1.248
LKM	.115	.011	117.284	1	< .001	1.122	1.099	1.145
JS	-.916	.013	5,049.879	1	.000	.400	.390	.410
GSI	-.735	.010	5,974.761	1	.000	.479	.471	.488

Variable	*B*	*SE*	Wald	*df*	Sig.	Exp(B)	Lower	Upper
TM	-.169	.011	248.041	1	< .001	.845	.827	.863
Constant	4.881	.082	3,563.137	1	.000	131.793		

Appendix I

Factor Analysis Correlation Matrix

Correlation Matrix

		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.	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.	5. I like the kind of work I do.	13. The work I do is important.	63. How satisfied are you with your involvement in decisions that affect your work?	67. How satisfied are you with your opportunity to get a better job in your organization?	69. Considering everything, how satisfied are you with your job?	40. I recommend my organization as a good place to work.	70. Considering everything, how satisfied are you with your pay?	71. Considering everything, how satisfied are you with your organization?	21. My work unit is able to recruit people with the right skills.	29. The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals.	68. How satisfied are you with the training you receive for your present job?
Correlation	24. In my work unit, differences in performance are recognized in a meaningful way.	1.000	.785	.572	.525	.316	.288	.589	.580	.547	.559	.383	.577	.518	.482	.517
	25. Awards in my work unit depend on how well employees perform their jobs.	.785	1.000	.583	.542	.305	.286	.572	.559	.535	.553	.379	.565	.480	.466	.499
	37. Arbitrary action, personal favoritism and coercion for partisan political purposes are not tolerated.	.572	.583	1.000	.749	.302	.284	.559	.528	.531	.583	.339	.582	.414	.478	.475
	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.	.525	.542	.749	1.000	.305	.294	.532	.508	.520	.572	.337	.565	.392	.474	.463
	5. I like the kind of work I do.	.316	.305	.302	.305	1.000	.561	.395	.365	.571	.462	.268	.455	.276	.344	.357
	13. The work I do is important.	.288	.286	.284	.294	.561	1.000	.338	.302	.441	.389	.201	.384	.245	.328	.302
	63. How satisfied are you with your involvement in decisions that affect your work?	.589	.572	.559	.532	.395	.338	1.000	.627	.674	.633	.396	.685	.473	.501	.577
	67. How satisfied are you with your opportunity to get a better job in your organization?	.580	.559	.528	.508	.365	.302	.627	1.000	.624	.581	.484	.639	.466	.450	.587
	69. Considering everything, how satisfied are you with your job?	.547	.535	.531	.520	.571	.441	.674	.624	1.000	.735	.471	.789	.458	.517	.598
	40. I recommend my organization as a good place to work.	.559	.553	.583	.572	.462	.389	.633	.581	.735	1.000	.399	.782	.498	.563	.541
	70. Considering everything, how satisfied are you with your pay?	.383	.379	.339	.337	.268	.201	.396	.484	.471	.399	1.000	.479	.318	.321	.379
	71. Considering everything, how satisfied are you with your organization?	.577	.565	.582	.565	.455	.384	.685	.639	.789	.782	.479	1.000	.507	.565	.587
	21. My work unit is able to recruit people with the right skills.	.518	.480	.414	.392	.276	.245	.473	.466	.458	.498	.318	.507	1.000	.513	.440
	29. The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals.	.482	.466	.478	.474	.344	.328	.501	.450	.517	.563	.321	.565	.513	1.000	.504
	68. How satisfied are you with the training you receive for your present job?	.517	.499	.475	.463	.357	.302	.577	.587	.598	.541	.379	.587	.440	.504	1.000