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HUMAN CAPITAL MANAGEMENT IN FEDERAL AGENCIES: DO PERCEPTIONS
AND SATISFACTION LEVELS DIFFER ACROSS GENERATIONAL COHORTS?

by

Chantay M. Dudley

A Dissertation

Submitted in Partial Fulfillment of the

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Abstract

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This study examines U.S. federal employees' satisfaction with areas of human capital management and addresses the extent to which the relationships vary across generational cohorts. Using responses to the Merit Principles Survey, data were obtained from 36,926 employees in 24 federal agencies. The overall model predicts the effects of satisfaction with rewards and recognition, satisfaction with training and development, and levels of supervisory trust on job satisfaction levels. Contrary to the profiles of the four generations prevalent in popular and business literature, the results of the structural equation models suggest that the attitudes of these generations of federal employees are more similar than different. Implications for agency leaders and future research are discussed.

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Introduction

The purpose of this study was to extend the empirical research body on generational differences in the workplace. As a result of the negative insinuations regarding differences and conflicts among the four generations in today's workforce, organizational leaders have begun developing human capital policies and programs tailored to and aligned with the values of individual generations. According to authors of popular business literature, conflicts between Matures, Baby Boomers, Generation Xers, and Generation Yers are so severe that they should be a major source of concern for managers and supervisors (e.g., Hammill, 2005; Martin & Tulgan, 2001, 2002; Zemke, Raines, & Filipczak, 2000). However, the empirical research supporting these speculations is scant. Thus, given that these differences highlight issues pertinent to the recruitment, development, motivation, and retention of employees (Forte & Hansvick, 1999), more empirical research is needed to guide the efforts of leaders to ensure the changes made are warranted and effective for organizations.

To date, the studies on generational differences have examined employees' work values, attitudes, and behaviors. However, none of the current literature has examined generational differences in the federal workplace. Thus, the goal of this study is to extend the research body by exploring generational differences in the perceptions and attitudes of federal employees, particularly regarding human capital management in federal agencies. Using survey data from more than 36,000 employees in 24 federal agencies, this study examines whether the relationships among rewards and recognition, training and development, supervisory trust, and job satisfaction differ across the four generational cohorts.

As the largest employer in the U.S., the federal government employs approximately two million civilian employees (Partnership for Public Service, 2007). Therefore, the results and implications from this study can have a significant impact on the application of human capital management in agencies. Stated differently, the findings from this study can be used to enable agency leaders, human resource professionals, and organizational psychologists to better understand federal employees and to formulate the critical and effective recruitment, training, and retention strategies needed to maintain and increase the human capital capacity of the federal government (Lewis & Frank, 2002; Selden, Ingraham, & Jacobson, 2001).

Generational Cohort Research

The construct *generation* has several meanings in the research body (e.g., familial generations). Therefore, it is important to define what is meant by generation in this study. In the organizational behavior literature, generation refers to a group of people, around the same age and location, who have experienced similar social and historical events (Mannheim, 1972). One of the most commonly used definitions of a generation in organizational research is as a birth cohort, which is “an identifiable group of people who share birth years and experiences as they move through time together, influencing and being influenced by a variety of critical factors” (Kupperschmidt, 2000, p. 66). Cohort members share key life experiences, including public heroes, entertainment, hobbies, and early work experiences. As a result, generational cohort members develop distinct and parallel perspectives, expectations, and attitudes (Kupperschmidt, 2000).

Criticism of Generational Research

Much criticism of generational research exists. Some academics and researchers criticize the validity of the generational cohort construct (Giancola, 2006) and believe that other factors, such as life stage, career stage, race/ethnicity, and social class, are more important in examining differences than generation (Giancola, 2006, 2008). Other critics take issue with its measurement. Measuring generational effects involves the confounding impacts of age (developmental life cycle), time (point in time at which data are collected) (Cavalli, 2004), as well as its reduction into a categorical variable (cohort effect; Jackson, Joshi, & Erhardt, 2003).

Generational researchers respond to critics by conducting more empirical research. One way is to test whether other demographic factors provide more explanatory evidence than generation groups. The most commonly challenged variables thus far are age and career stage. A few of the researchers who have examined the impacts of generational cohorts and age on organizational variables concluded that employees' age is not an appropriate substitute for generational cohorts and that the differences found are not due to maturation or age effects (Miller, 2006; Smola & Sutton, 2002). In contrast, Payne and Makiney (2008) showed that, although generational differences were found in some criteria (e.g., Generation Yers were viewed and rated as better at learning and applying new knowledge and skills than Baby Boomers), age and career stages explained differences in employees' engagement levels better than generational cohorts. Payne and Makiney (2008) did not provide enough information about their study to speculate on potential reasons for the different results.

In addition to that discussed above, criticism regarding generational cohort research also stems from the fact that the descriptions of the four cohorts present in today's workforce are derived from popular business literature. Commonly cited generation books and articles reference studies that were based on little more than anecdotal evidence at best, with leading authors citing the "research" of the others but with no full explanation of any of their research methodologies (see Miller, 2006). Likewise, because these cohorts are distinguished by unique experiences and events such as the Great Depression, Woodstock, and the assassination of Martin Luther King, Jr. (Jurkiewicz & Brown, 1998), there is much dispute over the date ranges that divide the four generations, further contributing to researchers' criticism, and often dismissal, of the generation construct. Fortunately, the amount of empirical research is increasing, which should lead to more empirically-based descriptions on which to base future hypotheses and organizational activities.

Generational Cohorts in the Current Workforce

Using the frequently-cited literature, the values and characteristics associated with each generation are described below.

Matures. The oldest generation in the workforce, born between 1922 and 1943, is called the Matures. Also referred to as Traditionalists, Veterans, and the Silent Generation (Eisner, 2005; Zemke et al., 2000), these individuals were influenced by the economic hardships of growing up during the Great Depression and World War II. They are described as being conservative, respectful of authority, loyal, patient, and hardworking and are characterized as preferring consistency (Martin & Tulgan, 2002; Zemke et al., 2000).

Baby Boomers. Originally given the name because of the increase in births after World War II (Smola & Sutton, 2002), the Baby Boomer generation is the largest currently in the workforce (Hatfield, 2002). Born between 1944 and 1960 (Zemke et al., 2000), they were influenced by the Vietnam War, the Civil Rights movement, the Kennedy and King assassinations, and Watergate (Bradford, 1993).

Boomers are characterized as being willing to work hard to achieve personal and professional success (Kupperschmidt, 2000; Yu & Miller, 2003; Zemke et al., 2000), highly committed to their employers compared to other generations (Zemke et al., 2000), and somewhat self-centered and devoted to personal gratification (Martin & Tulgan, 2002; Zemke et al., 2000). Reportedly, they also value optimism, team orientation, personal gratification, health and wellness, personal growth, youth, work, involvement (Zemke et al., 2000), power within the organization (McCrindle & Hooper, 2006), promotions, titles, and corner offices (Kupperschmidt, 2000).

Generation X. Generation X refers to the individuals born between 1961 and 1980 (Eisner, 2005; O'Bannon, 2001; Rodriguez, Green, & Ree, 2003; Zemke et al., 2000). This cohort was affected by growing up in the wake of the Vietnam War, Nixon's resignation and subsequent pardon, and watching people get laid off by the companies they had been loyal to for years (Kupperschmidt, 2000; Zemke et al., 2000). As a result, they are cynical and untrusting (Martin & Tulgan, 2002; Kupperschmidt, 2000); have a strong need for independence; desire to invest in themselves, not the organization (Hart, 2006; Pekala, 2001); and are more likely to leave a job and seek out more challenging options, a higher salary, or improved benefits (Hays, 1999; Loomis, 2000). Although Generation Xers also are sometimes referred to as being slackers because they desire a

work-family balance and view their employment as a job instead of a career (Raines & Hunt, 2000), Pekala (2001) reports that they are highly task-oriented and are the most entrepreneurial group of all generations.

Generation Y. The youngest and only generation still entering the workforce is called Generation Y (also known as Millennials, Generation Next, The Next Generation, Generation Why, and the Internet Generation). With no agreed-upon cutoff date, Generation Y comprises people born after 1981 (Eisner, 2005; Zemke et al., 2000). Generation Y employees have a strict work ethic (Garlick & Langley, 2007; Zemke et al., 2000), are polite to authority figures (Garlick & Langley, 2007), seek meaningful work that fulfills them or helps others (Garlick & Langley, 2007), and are very socially active (Zemke et al., 2000). They view lifelong learning as a priority and family as their key to happiness (Mitchell, 1998).

Accustomed to highly structured situations, Generation Y is said to be better educated, more creative, and much more technically savvy than previous generations (Hatfield, 2002). According to Smola and Sutton (2002), they value skill development and enjoy the challenge of new opportunities. Accordingly, they are comfortable with change and are less likely to value job security than other generations (Hart, 2006).

Overview of Generational Literature

To combat the dearth of empirical and quantitative evidence, organizational researchers have increased the study of generational cohort effects on organizational attitudes, behaviors, and outcomes. For example, the *Journal of Managerial Psychology* dedicated an entire 2008 issue to articles related to generational differences and issued a

special Call for Papers on Millennial-specific (i.e., Generation Y-specific) research in 2009.

Thus far, generation research has been conducted on employees' behaviors, values, expectations, preferences, attitudes, and motivations (Busch, Venkitachalam, & Richards, 2008; Cennamo & Gardner, 2008; D'Amato & Herzfeldt, 2008; Wong, Gardiner, Lang, & Coulon, 2008). Much of this research has shown that significant differences exist in the behaviors, attitudes, and values among the generational cohorts, albeit not always in the directions expected (D'Amato & Herzfeldt, 2008; Lahiri, 2001; Lyons, 2004; Smola & Sutton, 2002; Sujansky, 2004; Wong et al., 2008).

The early research on generational differences focused on the work values of the cohorts and generally found empirical support for the speculated differences found in the anecdotal literature. Smola and Sutton (2002) surveyed Baby Boomers and Generation Xers about their attitudes and work values and found significant differences among the cohorts. They showed that Generation Xers reported a stronger desire to be promoted and felt more strongly about the value of working hard than Baby Boomers. In a later study, Lyons (2004) also found significant differences in work values among the four generations of Canadian employees sampled, supporting Smola and Sutton's findings.

Following the evidence of value differences, researchers extended their scopes and explored potential differences in motivation, attitudes, and behaviors. Although researchers like Kim, Knight, and Crutsinger (2009) maintain that the motivations of Generation Y employees differ in comparison to older employees, the research support is lacking. Appelbaum, Serena, and Shapiro (2004) compared common motivational factors across Baby Boomers and Generation Xers and found that, contrary to common beliefs,

four out of the five motivational factors selected as being most important were identical for both cohorts (including a stable and secure future, a high salary, a chance to learn new things, and variety in work assignments). In a later study, Wong et al. (2008) confirmed Appelbaum et al.'s (2004) results and provided additional support for the existence of generational differences in employees' personality and motivational drivers. However, in both studies, the researchers found that, even where differences existed, the differences were small and almost negligible. Furthermore, and more importantly, the directions of the differences often were contrary to those suggested in popular literature.

The most recent literature has focused on behavior, expectation, attitude, and style differences among the generations. For instance, in a sample of nurses, Blythe et al. (2008) found significant generational differences in a host of organizational factors (i.e., career commitment; affective, normative, and continuance commitment to the organization; job satisfaction; stress and emotional exhaustion; depersonalization; personal accomplishment; and propensity to leave the hospital). Other researchers have demonstrated similar differences. By and large, their results show that younger generations report higher intentions to leave their organizations, and older generations report higher levels of commitment and satisfaction than younger generations (D'Amato & Herzfeldt, 2008; Mastrangelo & Green, 2008; Miller, 2006).

Not surprisingly, the majority of the studies on generational differences have used samples of private-sector employees. However, a fair amount of generational research has been conducted on public-sector employees. Jurkiewicz and Brown (1998) conducted a study, using a sample of Midwestern municipality employees, to investigate generational differences between Baby Boomers' and Generation Xers' work motivators.

Although they found very few differences, the ones that surfaced revealed that Boomers rank freedom from supervision higher than Generation Xers, and Generation Xers rank wanting to learn new things higher. They concluded that these differences might be explained better by career stages rather than generational cohort differences.

Because Jurkiewicz and Brown (1998) used nonparametric methods to analyze their data, few inferences and generalizations can be drawn from their results (Tanizaki, 1997). For this reason, Yang and Guy (2006) replicated a portion of the Jurkiewicz and Brown (1998) study and also examined the work motivators of Baby Boomers and Generation Xers. They found similar results to Jurkiewicz and Brown and concluded that Generation Xers and Baby Boomers are not considerably different in terms of work motivators and, therefore, do not require different management practices to be high performers.

In a recent study using a sample of federal employees, Dudley and her colleagues (2009) explored whether the perceptions of human capital management influenced turnover intentions differently across generational cohorts in the federal workplace. They demonstrated that employees' levels of satisfaction with their jobs, rewards and recognition, and training and development significantly predicted their turnover intentions, and that these relationships differ across generational cohorts. More specifically, Generation Xers' job satisfaction levels influence their intent to leave significantly more than Boomers', and Generation Yers' perceptions of training and developmental support influence their intent to leave significantly more than Boomers'.

Although the literature discussed above reveals much support for the existence of generational differences in employees' work values, attitudes, and behaviors, the extent

and impact of those differences on organizational effectiveness and success are still unclear. This lack of evidence may explain why some generation researchers, such as Jennifer Deal, still contend that generational issues should be of little to no concern to managers. In a seven-year study of about 3,200 corporate leaders concerning the differences among generational cohorts, Deal (2007) found that employees from the Matures, Baby Boomer, and Generation X cohorts have the same ideas about what companies should do to retain them, shared their top three values, and are not different in terms of their desired compensation and benefits preferences, as speculated by many generation theorists. Although Deal's findings are often cited by authors, researchers, and managers who maintain that studying generational differences in the workplace is pointless, it is important to note that this survey was of corporate leaders about their employees' preferences and attitudes and *not* of the actual employees themselves.

Nevertheless, some researchers have found support for Deal's conclusions and have shown that members of the respective generations are more alike than different in terms of their work attitudes and values. When examining whether generational differences exist in the work commitment levels of Baby Boomers and Generation Xers in the IT profession, Davis, Pawlowski, and Houston (2006) found very few differences. In a similar study and after controlling for several factors (e.g., work effort, earnings, work flexibility), Wallace (2006) also found that Generation X lawyers are not less committed to their work than Baby Boomer lawyers.

Although these researchers have found that the cohorts are similar to one another in various respects (Davis et al., 2006; Deal, 2007; Jurkiewicz, 2000), finding communalities among the cohorts should be expected. Many studies explore differences

among groups based on demographic variables (e.g., gender, race/ethnic groups, and education). Considering that generational cohorts are groups of individuals that are created based on demographic information, it is plausible that, similar to studies of other demographic variables, employees will be similar in some ways and different in others. Additional research is needed to expound on these similarities and differences.

Human Capital Management

Of particular interest in this study are federal employees' perceptions and attitudes related to human capital management in federal agencies. Over the past two decades, the emphasis on achieving mission success through the effective implementation of human capital management has increased tremendously. As a result and as an evaluation method, federal employees are surveyed, at least annually, about a variety of human capital management policies and practices. This study used their survey responses to not only examine their attitude levels but also differences in the relationships among those attitudes. Below is a discussion about the particular attitudes examined in this study and the hypothesized relationship among them.

Job Satisfaction

Organizational leaders are generally most concerned with employees' performance and retention levels. However, due to the difficulty of matching publicly-available survey results to actual performance and turnover data, employee attitudes (e.g., job satisfaction, organizational commitment, turnover intentions) are often used as proxy variables. In this study, the decision to explore the impact of employees' satisfaction with rewards and recognition, satisfaction with training and development, and trust in their supervisors on their levels of job satisfaction was made for two reasons. First, a strong

body of research supports the connection between job satisfaction and employees' performance and turnover behavior (Griffeth, Horn, & Gaertner, 2000; Judge, Thoresen, Bono, & Patton, 2001), indicating that the more employees are satisfied with their jobs, the more likely they are to be high performers and remain with their organizations. Second, federal data and researchers suggest that job satisfaction is critical to mission accomplishment in agencies (see U.S. Merit Systems Protection Board [MSPB], 2008), thus making it an important organizational outcome in federal agencies.

Organizational Behavior Literature. Job satisfaction refers to an overall assessment that employees make about their jobs and the degree to which employees like their jobs (Spector, 1997). It is used to understand other important organizational factors, such as organizational commitment and turnover, as well as the outcome effect of organizational activities, experiences, and attitudes (Hellman, 1997; Hom & Kinicki, 2001; Johnston, Parasuraman, Futrell, & Black, 1990; Mitchell, Holtom, & Lee, 2001; Staples & Higgins, 1998). Therefore, although it is one of the most commonly studied organizational constructs, researchers continue to examine potential antecedents and consequences to better aid organizations in developing, building, increasing, and maintaining employees' job satisfaction (Kim et al., 2009; Rowden, 2002).

Employees' job satisfaction levels have been empirically linked to many organizational factors (e.g., life satisfaction, satisfaction with supervisors, supervisory support, work involvement, training, employee benefits, compensation, and motivation; Babin & Boles, 1996; Comm & Mathaisel, 2000; Hwang & Chi 2005; Kim et al., 2009; Oishi, Diener, Lucas & Eunkook, 1999; Ostroff, 1993). In addition, researchers have shown that job satisfaction also has a significant effect on employees' efficiency and

productivity, which can ultimately affect an organization's competitive advantage (Chan, 2005). It is assumed that employees unhappy with their jobs perform at low efficiency levels (Taormina, 1999), and that low job satisfaction levels perpetuate negative feelings about the organization and increase employees' intentions to leave the organization (Brown & Leigh, 1996). As a result, many researchers recommend that organizations implement policies and practices that increase employees' levels of job satisfaction to increase retention and performance (Herman, 1999).

Job Satisfaction in Federal Agencies. The importance of federal employees' job satisfaction levels has been acknowledged on more than one occasion. In a recent MSPB study, federal researchers showed that employee satisfaction levels can influence their willingness to recommend the federal government or their agencies as a place to work, which can directly affect agencies' recruitment efforts, the quality of the applicant pool, and the acceptance of employment offers (see MSPB, 2008). Likewise, in his dissertation, Callaway (2006) suggests that agency leaders focus their efforts on increasing the job satisfaction levels of federal employees to motivate and retain high-performing employees.

However, trend analyses from 1986-2005 show that federal employee job satisfaction levels have not increased over the years and have remained steady with around 70% of the population reporting satisfaction with their jobs (MSPB, 2008). Given that federal agencies compete with one another and private-sector organizations to become a "best place to work," demonstrating that agency leaders are concerned with employee satisfaction levels (Boxx, Odom, & Dunn, 1991; MSPB, 2008), this lack of improvement in job satisfaction is noteworthy. Thus, this study explored the influence of

three strategies (rewards and recognition, training and development, and supervisory trust) on employees' job satisfaction levels to help agency leaders understand which areas of human capital management have the greatest impact on job satisfactions levels among the four generational cohorts.

Generation Research on Job Satisfaction. Unlike the general body of organizational research on job satisfaction, little research has been conducted on the levels of job satisfaction across generations of employees. Among the research that has been conducted, the findings are mixed. Some researchers have reported no significant differences in job satisfaction levels across generations (Cennamo & Gardner, 2008; Mastrangelo & Green, 2008), but others have presented evidence to the contrary (Blythe et al., 2008; Chan, 2005; Dudley, Burnfield-Geimer, & Erdheim, 2009; Whinghter, 2009).

Consistently, the research that provides evidence of generational differences shows that employees in the older generations are more satisfied with their jobs than Generation Y employees. Using samples from the National Study of the Changing Workforce from 1997 and 2002, Beutell and Wittig-Berman (2008) showed that Matures have significantly higher levels of job satisfaction compared to Generation Xers and Baby Boomers in both samples. In the 2002 sample, Baby Boomers also had significantly higher levels of job satisfaction than Generation Xers.

Other research confirms the above results. Whinghter (2009) and Blythe et al. (2009) found that Baby Boomers report significantly higher job satisfaction levels than Generation X and Y employees. Similarly, Chan (2005) showed that Generation Xers report higher job satisfaction than Generation Y employees. Moreover, Dudley et al.

(2009) found that Generation Y employees report significantly lower levels of job satisfaction than Generation Xers and Baby Boomers. Although the trend of results seems to clearly indicate that younger employees in the Generation Y cohort report low job satisfaction levels, it is not clear what factors contribute to this difference. This study attempted to fill this gap by identifying potential influencers of the job satisfaction levels among the cohorts.

Rewards and Recognition

Organizations use a variety of reward and recognition methods (e.g., compensation, benefits, promotions, performance appraisals) to motivate their employees. Valued differently by different people, the meaningfulness of a particular reward or recognition depends on the employee's background and the organizational environment (Lawler, 1994). Thus, it is critical that organizations offer the right "mix" of incentives that will appropriately motivate employees to maintain a healthy and successful workforce (Blythe et al., 2008; Lopez, Hopkins, & Raymond, 2006).

Rewards and recognition have been linked to a host of organizational factors (e.g., performance improvement, organizational effectiveness, recruitment, retention, good morale, and loyalty, commitment; DeVries, 2007; Lopez et al., 2006; Manolopoulos, 2006; Saunderson, 2004), including satisfaction in the workplace. Researchers suggest that employees who are more satisfied with the rewards and recognition received also are more satisfied with their jobs (Janson & Martin, 1982). They reason that employees are most satisfied with their jobs, and perform at their best, when they feel appreciated and recognized for their efforts (DeVries, 2007; Manolopoulos, 2006).

The above evidence may explain the recent changes being made to reward and recognition programs in federal agencies. The recognition that reward and recognition programs are important in recruiting and retaining a high-performing workforce, coupled with the widespread notion that public-sector employees are less extrinsically and more intrinsically motivated than employees in private-sector organizations (see e.g., Buelens & Broeck, 2007; Frank & Lewis, 2004), may have contributed to agency leaders' efforts to provide competitive rewards packages. Thus, they have revamped their performance evaluation systems, revised their compensation systems (e.g., pay-for-performance systems), increased the type of recruiting incentives they can offer (e.g., tuition reimbursement), and implemented more flexibilities (e.g., regular-day-off and telecommuting programs) (see e.g., U.S. Office of Personnel Management [OPM], 2010; Schwemle, 2008). All of these programs are designed to entice, motivate, and satisfy employees. It stands to reason that, in addition to researchers, agency leaders also assume and expect that the more satisfied employees are with reward and recognition policies and practices, the more satisfied they will be with their jobs and agencies and the better they will perform.

Generation Research on Rewards and Recognition. Researchers, organizational leaders, and HR professionals all speculate on the generational differences in reward and recognition preferences and expectations (Blythe et al., 2008; Randstad, 2006). Alison Avalos, a recognition practice leader for World At Work, stated, "...experts collectively agree that one-size-fits-all age group solutions simply do not exist" (as cited in Casison, 2008). Blythe et al. (2008) concurred. They encouraged organizations to understand which incentives are more effective in retaining older generations and in both recruiting

and retaining younger generations. Although these researchers are adamant that reward and recognition preferences are critical to retention and different across generations, the empirical research is mixed and incomplete.

A few studies have shown that employees in the different generational cohorts do not differ in the importance of rewards and recognition to their satisfaction at work (Cennamo & Gardner, 2008; Randstad, 2006; Smola & Sutton, 2002). In a 2006 survey of working adults, Randstad found no significant differences between the cohorts in terms of importance of rewards and recognition (Randstad, 2006). In support of Randstad's findings, Smola and Sutton (2002) also found no significant differences between Baby Boomers and Generation Xers in their ratings of the importance or desirability of being recognized or getting recognition. Similarly, Cennamo and Gardner (2008) found no significant differences in the extrinsic (e.g., salary) and intrinsic (e.g., meaningful work) values between Baby Boomers, Generation Xers, and Generation Yers.

Although the above studies showed a lack of significant generational differences related to employees' reward and recognition preferences and values, there is a larger amount of research providing evidence to the contrary. The research supporting generational differences in the values put on rewards and recognition offered, the rewards and recognition desired, and the levels of satisfaction with the rewards and recognition received is much more plentiful than that showing a lack of differences. For example, Busch et al. (2008) showed that the need for recognition is higher among Generation X and Y employees than among Baby Boomers. In partial support, Saunderson (2004) confirmed that such differences exist, but found that it is Baby Boomers who desire more recognition. In further support for the existence of differences, his results also showed

that Baby Boomers, Generation Xers, and Generation Yers differ in their preferences for rewards and recognition in the workplace. Particularly, Baby Boomers want personal and public recognition; Generation Xers want pay equity; and Generation Yers prefer career development, education, immediate feedback, praise, and incentives.

Significant differences also have been demonstrated in reward and recognition satisfaction levels among the generational cohorts. Miller (2006) showed that Matures are more satisfied with their intrinsic rewards than other cohorts, and Matures, Baby Boomers, and Generation X employees report higher levels of satisfaction with their extrinsic rewards than Generation Y employees. Similarly, after examining Frito-Lay employees' satisfaction with their rewards packages, Mastrangelo and Green (2008) found that Baby Boomers are more satisfied with their total reward packages than Generation Xers. Their results supported those reported by Wallace (2006) in an earlier study. She demonstrated that extrinsic rewards, such as pay, are more important for Baby Boomers, whereas intrinsic rewards, such as socially significant work and good co-worker relationships, are more important for Generation Xers. Consequently, she suggested that employers consider different motivation strategies for Baby Boomer and Generation Xers.

Training and Development

Employee training is one of the key human capital management practices that facilitate and contribute to an organization's ability to gain a competitive advantage (Garrido, Pérez, & Antón, 2005; Marimuthu, Arokiasamy, & Ismail, 2009). Meyer and Allen (1997) suggest that it is not financial rewards that develop organizational commitment; rather, employee commitment to the organization is tied to whether it

facilitates the development of new skills. Therefore, organizational leaders strongly emphasize the criticality of implementing training and development programs to accomplish organizational objectives and goals effectively and efficiently (Al-Emadi & Marquardt, 2007).

There is a strong body of research providing evidence that more training and developmental opportunities result in higher levels of productivity (Becker, 1975), commitment (Bartlett, 2001; Meyer & Smith, 2000), retention (Grossberg, 2000; Winterton, 2004), and job satisfaction (Edgar & Geare, 2005; Garrido et al., 2005; Georgellis & Lange, 2007; Shields & Ward, 2001). As a result, organizational leaders understand that continuous training and development is a necessity to increase not only retention but performance and effectiveness as well (D'Amato & Herzfeldt, 2008; Marimuthu et al., 2009; Zingheim & Schuster, 2008).

Employees' perceptions of training and developmental opportunities are important to measure given the obligation employers are increasingly feeling towards training their employees (Robinson, Kraatz, & Rousseau, 1994). Lee and Bruvold (2003) found that when organizations invested in their employees through training and development, employees developed more positive perceptions of the organizations' willingness to support their development (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001; Koster, De Grip, & Fouarge, 2009). They reasoned that positive perceptions cause employees to believe in a social exchange relationship between them and the organization, which makes them act in a reciprocal manner. As a result, employees will be more satisfied with their jobs and willing to work harder for the organization (Balkin & Richebe, 2007; Eisenberger et al., 2001).

Generation Research on Training and Development. A review of the literature showed that generational researchers differ on their postulations of which generational cohort prefers more training than the other and, thus, on their recommendations of which cohorts should be of highest concern regarding training and development opportunities. The leading theory posits that learning and development are essential for the youngest generation to decide to remain with their current organizations. Researchers contend that Generation Y employees desire and expect to be trained and developed continuously to feel valued and remain “marketable” (Cole, 1999; Kelan, 2008; Martin, 2005). Consequently, researchers suggest that managers must be prepared to offer training and developmental opportunities to younger employees to not only create, but also to retain, effective and successful employees (as cited in Miller, 2006). Evidence suggests that organizations are following this advice, often at the expense of training employees in older generations.

The Center on Aging & Work/Workplace Flexibility conducted a study of business strategy and workforce development in the U.S. Results showed that employers report being more likely to offer career development opportunities to early- and mid-career employees than to late-career employees (Pitt-Catsoupes, Smyer, Matz-Costa, & Kane, 2007). Additional evidence was presented in a recent article about training within UPS. Ketter (2008) reported that UPS conducted focus groups of its employees to determine the kind of training it needed to deliver to be effective. Its Generation Y employees reported that they want to use technology and get first-hand experiences in their training to master the skills needed. As a result of implementing these preferences,

UPS has received a 91% satisfaction rate from their students on all modules, and its first-year driver failure rates have declined tremendously.

Another reason for the lack of training and developmental opportunities for older employees is the perception that they are uninterested in learning new skills (Barnes-Farrell, 2008; Buhler, 2001). However, qualitative and quantitative research directly conflict with the notion that older workers in the Baby Boomer and Generation X cohorts are less motivated to engage in developmental activities than Generation Y employees (Fink, 2008; Tulgan, 1997). Researchers have shown that Baby Boomers *do* rate the chance to learn new skills, personal improvement, and creativity at work as important (Fink, 2008; Jurkiewicz, 2000; Lyons, 2004). In fact, some studies suggest that older generations are more interested in learning than younger generations are (Button, Mathieu, & Zajac, 1996; D'Amato & Herzfeldt, 2008; Tulgan, 1997). Buhler (2001) suggests that one possible reason for these misconceptions is that Boomers learn differently from those in younger generations, and it is this difference in learning styles that is mistaken for an unwillingness to learn.

Overall, the evidence is mixed. Based on a review of the research body, it is difficult to determine which generational cohort favors training and development more and for which cohort training and developmental opportunities have a larger impact on key organizational outcomes. Busch et al. (2008) presented evidence that Generation X and Y employees are less committed to learning in the workplace than Baby Boomers, and that Baby Boomers view workplace learning in a more positive light than younger generations. Although D'Amato and Herzfeldt (2008) confirmed that differences do exist in the learning orientations of the cohorts, they showed that it is Generation X employees

who exhibit a stronger learning orientation and lower organizational commitment levels than Baby Boomers.

Similar ambiguity is found when examining the research on employees' perceptions of training and developmental opportunities. Mastrangelo and Green (2008) demonstrated that Baby Boomers report significantly more support for training than Generation Yers at Frito-Lay. However, Dudley and her colleagues (2009) found that Generation Yers perceive that their training and development needs are assessed and met significantly more than Generation Xers and Baby Boomers. Their results also showed that Generation Yers' perceptions of training and developmental support influences their intentions to separate from their current agencies significantly more than Baby Boomers'. This finding supports anecdotal suggestions that Generation Yers expect to receive regular training and may change organizations if that expectation is not met satisfactorily.

Some researchers have found no generational cohort differences in training and development preferences. In a 2006 Randstad survey, Randstad researchers found that skill development and training are equally important, in terms of career development programs, for employees in the Matures, Baby Boomer, and Generation X cohorts (Randstad, 2006). Moreover, when investigating generational differences in the use of online learning systems, Stapleton, Wen, Starrett, and Kilburn (2007) found no significant differences in perceived satisfaction with or perceived learning from online courses. Although these results suggest that no generational differences exist in the preferences for training and development, much more evidence supports the conclusion that differences do, in fact, exist. The question that was explored in this study is where

the differences actually occur and the extent to which they impact employees' job satisfaction levels.

Supervisory Trust

It is widely known and accepted that effective leadership is critical to the success of an organization. Research studies provide strong support that leadership behaviors, styles, and effectiveness significantly impact important organizational outcomes, such as turnover, organizational commitment, and satisfaction (Lowe, Kroeck, & Sivasubramaniam, 1996; Podsakoff, MacKenzie, Moorman, & Fetter, 1990; Rafferty & Griffin, 2006; Trottier, Van Wart, & Wang, 2008). Thus, another important factor of concern to OPM and federal agencies regarding human capital management is employees' perceptions of leadership in agencies.

The specific leadership factor of interest in this study is employees' levels of trust in their immediate supervisors, which reflect perceptions of their supervisors' characteristics (e.g., integrity, competence, dependability, fairness, ability, and openness) (Clark & Payne, 2006; Dirks & Ferrin, 2002). In a 2005 survey of the federal workforce, the MSPB found that employees' trust in their supervisors was a critical issue in federal agencies. They showed that employees' trust levels affect a variety of other employee attitudes, which impact agencies' abilities to accomplish their goals and objectives. As a result, the MSPB researchers strongly recommended that agency leaders focus on building and strengthening this relationship between employees and supervisors (MSPB, 2007). Given this report and the research supporting the conclusions drawn in this report, employees' trust levels should be of particularly high concern to agency leaders.

A review of the literature body on trust supported the MSPB researchers' recommendations. According to Phillips (1997), high-performance organizations create a culture of mutual trust between management and employees, which indicates that when employees trust in their leaders, organizations realize higher performance levels than organizations with employees with lower levels of trust in their leaders. Using the social exchange theory to explain this connection, researchers suggest that when subordinates trust their managers, they are more willing to put forth extra effort towards job performance and organizational citizenship behaviors, as well as have more favorable attitudes (see, e.g., Dirks & Ferrin, 2002).

Trust has been linked to a number of attitudinal outcomes, particularly organizational commitment, citizenship behaviors, intentions to quit, and job satisfaction (Brower, Lester, Korsgaard, & Dineen, 2009; Deluga, 1995; Macky & Boxall, 2007; Lagace, 1991; Liou, 1995; Pillai, Schriesheim, & Williams, 1999; Podsakoff et al., 1990). In a study examining managers' and sales employees' trust levels, Legace (1991) found that reciprocal trust between managers and employees significantly influences employees' job satisfaction levels. His results were confirmed in a more recent meta-analysis. Dirks and Ferrin (2002) conducted a meta-analysis on the relationships between employees' trust in leadership and key outcomes, antecedents, and other correlates. They showed that trust in leaders is significantly related to each of the outcomes tested, including job performance, job satisfaction, organizational commitment, satisfaction with leaders, and organizational citizenship behaviors. Interestingly and relevant to the present study, their data indicated that trust had the largest relationships with job satisfaction and organizational commitment.

Generation Research on Supervisory Trust. Generational researchers speculate that major workplace conflicts arise when supervisors manage employees of a different generation than themselves (Leger, 2000) because of different leadership style and behavior preferences (see Arsenault, 2004; Jones, Brown, Zoltners, & Weitz, 2005; Sessa, Kabacoff, Deal, & Brown, 2007; Zemke et al., 2000). Acknowledging the significance that leaders have on employees' work attitudes, behaviors, and performance, it was expected that a generous amount of research would be found exploring generational differences in factors related to leaders. However, even though a fair amount of research was found on supervisor support, relations, and effectiveness, (Pitt-Catsouphes, Matz-Costa, & Besen, 2009), a review of the literature body showed almost no research examining generational similarities and differences in supervisory trust levels.

The only two empirical studies found provided evidence that trust differences exist among the generations. Arsenault (2004) found that 8 out of the 10 characteristics most admired in leaders were significantly different among the generations. He showed that Veterans and Baby Boomers rank honesty as an important characteristic for leaders and significantly higher than Generation Xers and Nexters (i.e., Generation Y employees), and concluded that his findings support speculations that Generation X and Y employees' levels of trust in their leaders are declining.

In a later study about generational differences in leader values and leadership behaviors, Sessa et al. (2007) confirmed Arsenault's (2004) results. They also showed that employees in the four cohorts differ in the leadership attributes they value in their leaders and in their perceptions of the attributes most important for leaders. Also using a

rank-ordered procedure, they found that although each of the generational cohorts value trustworthiness, it was ranked significantly differently across the groups. Specifically, Generation Yers valued other attributes, such as focus, dedication, and optimism more highly than honesty. Recognizing the limited evidence, the above results need to be extended and empirically examined to provide additional evidence regarding the presence, or lack thereof, of differences among the cohorts in supervisory trust levels.

Summary of Generational Research

As expected, some of the empirical literature provides evidence that the members of the four cohorts differ from one another in their attitudes about and preferences in the workplace. For example, several researchers have shown that employees in the younger generations report higher intentions to separate from their organizations than those in older generations (e.g., D'Amato & Herzfeldt, 2008; Miller, 2006). These findings support widely held beliefs about Generation Y employees that suggest they are less committed to their organizations and constantly seek new jobs and opportunities when compared to Generation X, Baby Boomer, and Mature employees. However and not surprisingly, results from other research studies have differed. Other researchers have shown that no differences exist between the cohorts in their work attitudes and motivations (e.g., Davis et al., 2006; Jurkiewicz, 2000), and another group has concluded that although differences may be present, they are not as extensive as some researchers argue (e.g., Jurkiewicz & Brown, 1998). As a result of these inconsistent findings, more research is needed to further explore and confirm the validity of generational differences in the work attitudes, motivations, and behaviors of employees.

Purpose

The purpose of this study was to fill a void in the literature by examining the degree to which the relationships between employees' satisfaction with rewards and recognition, satisfaction with training and development, supervisory trust levels, and levels of job satisfaction hold equally for employees in the four generational cohorts present in the federal workforce. A review of the generational literature revealed not only a limited body of empirical research and mixed findings, it also showed that the majority of generation studies have focused on individual construct differences across cohorts instead of relationship differences. Therefore, this study is innovative in its approach to applying structural equation modeling (SEM) to not only assess relationship differences but also to understand whether employees' attitudes about human capital management differentially impact an important organizational outcome.

Hypotheses

Based on the literature discussed above, it can be concluded that employees in older generations are more satisfied with their jobs and with the rewards and recognition received compared to younger generations (e.g., Beutell & Wittig-Berman, 2008; Blythe et al., 2008; Miller, 2006; Wallace, 2006). And, given that researchers also have shown that employees who are satisfied with their rewards and recognition are more satisfied with their jobs (e.g., Cennamo & Gardner, 2008), it seems an obvious extension of the literature body to apply those findings to this study. Thus, as shown in Figure 1, it was hypothesized that:

Hypothesis 1a: Employees' satisfaction with the rewards and recognition received will be positively related with their levels of job satisfaction.

Hypothesis 1b: The relationship between employees' satisfaction with the rewards and recognition received and their levels of job satisfaction will differ across generational cohorts such that it will be stronger for employees in older generations than for those in younger generations.

The generation research on supervisory trust and training and development is more inconclusive. For example, although some researchers showed that Baby Boomers are more committed to learning in the workplace than younger generations (e.g., D'Amato & Herzfeldt, 2008; Jurkiewicz, 2000), others showed differences in commitment to learning in the reverse direction (e.g., Busch et al., 2008). Moreover, research showing that Baby Boomers perceive more training and developmental support than other generations (e.g., Mastrangelo & Green, 2008) has been disputed by research showing that Generation Yers perceive more support for training and development than other cohorts (Dudley et al., 2009). However, acknowledging that the study by Dudley et al. (2009) used a sample of federal employees and showed that Generation Yers' satisfaction with training and development had a stronger impact on a related organizational outcome, it is hypothesized that:

Hypothesis 2a: Employees' satisfaction with the training and development received will be positively related with their levels of job satisfaction.

Hypothesis 2b: The relationship between employees' satisfaction with their training and development and their job satisfaction levels will differ across

generational cohorts such that it will be stronger for employees in younger generations than for those in older generations.

The research on trust levels across cohorts is the most limited of the constructs included in this study. According to Arsenault (2004) and Sessa et al. (2007), employees in older generations rank the importance of trust in their supervisors significantly higher than younger generations. Therefore, based on their research, combined with other research demonstrating that higher levels of trust lead to higher levels of job satisfaction, it is hypothesized:

Hypothesis 3a: Employees' levels of trust in their supervisors will be positively related with their levels of job satisfaction.

Hypothesis 3b: The relationship between employees' trust in their supervisors and their job satisfaction levels will differ across generational cohorts such that it will be stronger for employees in older generations than for those in younger generations.

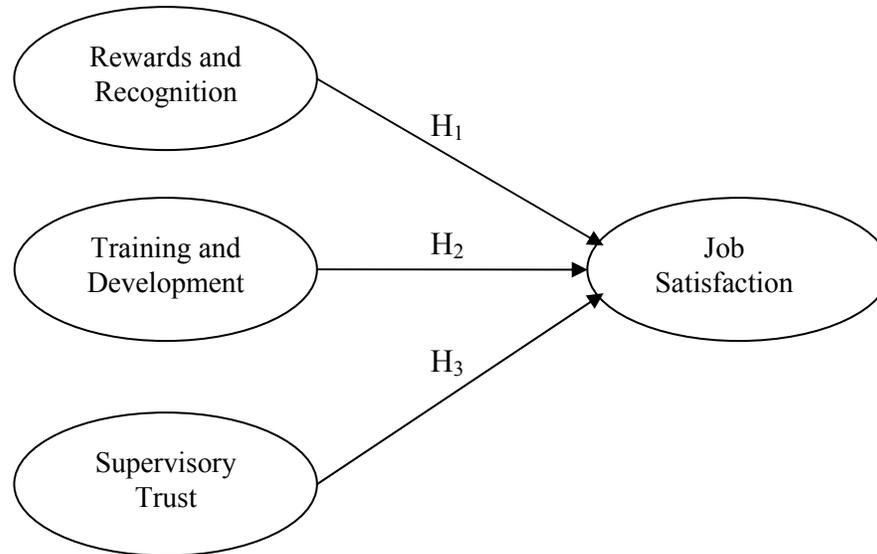


Figure 1. Hypothesized model of relationship between human capital management and job satisfaction in federal employees.

Method

Participants

The data for this retrospective study came from a total of 36,926 full-time, permanent federal employees from 24 different federal agencies who completed the Merit Principles Survey (MPS) in 2005. Overall, the sample comprises more males (51%) than females (35%)¹. The mean age of respondents was 49.1 years ($SD = 8.75$). The average tenure with their current agencies was 16.2 years ($SD = 9.59$) and 19.7 years ($SD = 9.76$) with the federal government. Over half of the respondents had at least a bachelor's degree (67%). Sixty-two percent of the participants were White, 10% were Black, 4% were Hispanic, 3% were Asian, and 6% reported being of a different race/ethnicity or being more than two races. Five percent of respondents were Matures; 56% were Baby Boomers; 24% were Generation Xers, and less than 1% were Generation Y employees.

Measures

¹ Due to missing data on background items, the percentages do not total 100.

The MPS 2005 is a survey that measures the perspectives of federal employees regarding working conditions, job satisfaction, and the quality of their coworkers and supervisors. The survey provides MSPB with indicators of how successful agencies are at achieving their missions, overcoming barriers to successful mission accomplishment, and supporting success through rewards, recognition, and retention. The 69-question survey consisted of Likert-style items covering demographic information and 10 dimensions related to the work environment: agency mission and work environment, employee's own job, employee's work unit, job performance standards and appraisal, pay and rewards, fairness, employee's supervisor, training, career plans, and supervisors' perspective at all levels (team leaders, first-line supervisor, upper managers, and executives). The survey items were reviewed by human resources leaders in several agencies, pilot tested, and revised as needed before the administration (see Appendix A for a list of items used in this study).

Generation Cohort. The four generation cohorts were created using respondents' ages. Given the data were collected in 2005, the cohorts were computed using the appropriate ages for that year. Matures (born between 1922 and 1943) represented employees between 62-83 years old. Baby Boomers (born between 1944 and 1960) represented employees between 45-61 years old. Generation Xers (born between 1961 and 1980) represented employees between 25-44 years old. Although the Generation Y cohort (born between 1981 and 2000) includes individuals who were 24 years old and younger, only employees 18 years and older were included in analyses.

Rewards and Recognition. Employees' satisfaction with the rewards and recognition they receive was measured using four items. Responses were captured using

a 5-point Likert-scale from *Strongly Agree* (1) to *Strongly Disagree* (5). A sample item is “I am satisfied with the recognition and awards I receive for my work.”

Training and Development. Employees were asked to report, on a 5-point Likert-scale (*Strongly Agree* (1) to *Strongly Disagree* (5)), whether they receive sufficient training to perform their jobs effectively. An example item of the two items used is “I receive the training I need to perform my job.”

Supervisory Trust. Employees’ level of trust in their supervisors was assessed with eight items on a 5-point Likert-scale from *Strongly Agree* (1) to *Strongly Disagree* (5). These items tap employees’ perceptions of their supervisors’ character, specifically about characteristics such as integrity, fairness, and openness. An example item is “I trust my supervisor to fairly assess my performance and contributions.”

Job Satisfaction. Employees’ satisfaction with their jobs was measured using four items on a 5-point Likert-scale from *Strongly Agree* (1) to *Strongly Disagree* (5). A sample item is “In general, I am satisfied with my job.”

Procedure

The MPS was administered to full-time, permanent, and nonseasonal employees of the 24 agencies (see Appendix B) who agreed to participate. From the 1.8 million full-time permanent employees in the federal workforce, a representative and random sample of about 74,000 employees from each agency or major division (e.g., Air Force, Army, and Navy) was invited to participate in the survey via e-mail messages containing the link to the online survey. Paper invitations and surveys were provided to employees in four agencies with limited Internet or e-mail access. A total of 36,926 employees completed the survey, resulting in a 50% response rate.

Statistical Analysis

The research questions were examined within an SEM framework. The analyses were performed with the Mplus statistical package. The maximum likelihood estimation and full-information maximum likelihood (FIML) methods were used to include all observations in the data set when estimating the parameters.

Before proceeding with the analyses, the statistical assumptions of SEM were tested (e.g., Garson, 2009). First, the data were screened for outliers and out-of-range values. If out-of-range responses were found, data were treated as missing (e.g., employees reporting ages younger than 18). After this step was completed, analyses were conducted to examine multivariate normality, multicollinearity, and linearity. Both skewness and kurtosis were below the recommended thresholds for concluding the data are normally distributed (see Garson, 2009). Tolerance values were greater than .60 and therefore interpreted to indicate no multivariate multicollinearity (Pedhazur, 1997). Visual inspection of the scatterplots of standardized residuals against standardized estimates of the dependent variable showed random patterns and thus, it also was concluded that nonlinearity is absent. Based on the above, it was determined that the statistical assumptions of SEM had been met.

In the first phase of the analysis, the hypothesized four-factor model in Figure 1 and two alternative models were tested using the full sample of respondents. Traditionally, the method used to compare nested measurement models is the chi-square difference test (Garson, 2009). However, many researchers agree that not only is the chi-square test sensitive to sample size, the chi-square difference tests fall prey to this same sensitivity (e.g., Cheung & Rensvold, 2002; Kelloway, 1995). For this reason, more

attention was paid to the root mean squared error of approximation (RMSEA), comparative fit index (CFI), and Tucker-Lewis index (TLI) goodness-of-fit indices. CFI and TLI values above .95 and RMSEA values below .08 were interpreted to indicate a good fit (Hu & Bentler, 1999).

In the second phase of the analysis, the structural relations between the latent factors were estimated for the four generational cohorts. The invariance of the structural relationships across cohorts was tested in two steps. First, because they comprise the majority of the total sample (56%), the structural model was developed using the sample of Baby Boomer respondents. Second, equality constraints were imposed on the remaining three cohorts using the structural parameter estimates from the Baby Boomer model.

The fit of the models was assessed using the same fit indices discussed above. In this case, however, the goal was not only to evaluate the significance of the differences between nested models but also to evaluate the effects of equality constraints across cohorts. Therefore, Cheung and Rensvold's (2002) recommendations were followed. They examined 20 goodness-of-fit measures for use when testing for invariance across multiple groups. They suggested that researchers examine the changes in goodness-of-fit indices and proposed critical change values to indicate invariance between constrained and unconstrained models. One of the three indices recommended was CFI because of its independence of model complexity and sample size, and because it is uncorrelated with the model chi-square. They proposed that a change in CFI (Δ CFI) values of $|\leq .01|$ or lower suggests that there is no meaningful difference in model fit, whereas a Δ CFI higher than $|\leq .01|$ indicates that the group differences in the constrained parameters are practically

significant. Thus, if the CFI value of the constrained model differs by more than $|.01|$ from the unconstrained model, it was concluded that the parameters are not invariant across cohorts.

Results

Confirmatory Factor Analysis

Model fit results for the hypothesized and alternative models are presented in Table 1. As shown, the goodness-of-fit indices clearly show that the four-factor model provides a much better fit to the data than the single- and two-factor models. All items loaded significantly on their hypothesized factors with t -values greater than 10.0 ($p < .001$; see Table 2), and the latent factors explained a substantial amount of variance in the items (R^2 's ranged from .30 to .83). This four-factor model became the measurement model for subsequent model testing.

Table 1

Goodness-of-Fit Indices for Confirmatory Factor Analyses

Model	χ^2	df	CFI	TLI	RMSEA	$\Delta\chi^2$	Δdf
Four-Factor	20,589.18	129	.96	.95	.07		
Two-Factor	80,384.35	134	.83	.80	.14	59,795.14	5
One-Factor	97,535.16	135	.79	.76	.15	76,945.98	6

Note. Four-factor model included the job satisfaction, rewards and recognition, training and development, and supervisory trust items as separate factors. Two-factor model forced the job satisfaction items to load onto one factor and all other items to load onto another factor. One-factor model forced all items onto a single factor. All χ^2 values are significant at $p < .001$. Changes in chi-square and degrees of freedom values are from those of the four-factor model.

Table 2

Factor Loadings from the Four-Factor Confirmatory Factor Analysis

Items	Job Satisfaction	Rewards and Recognition	Training and Development	Supervisory Trust
My opinions count at work.	1.12			
I know what is expected of me on the job.	.70			
The work I do is meaningful to me.	.58			
In general, I am satisfied with my job.	1.00*			
Recognition and rewards are based on performance in my work unit.		.88		
My organization takes steps to ensure that employees are appropriately paid and rewarded.		.89		
If I perform well, it is likely I will receive a cash award or pay increase.		.99		
I am satisfied with the recognition and awards I receive for my work.		1.00*		
I am given a real opportunity to improve my skills in my organization.			1.21	
I receive the training I need to perform my job.			1.00*	
Trust Sup--Fairly assess my performance and contributions				.98
Trust Sup--Support me in pay and award discussions with upper management				1.04
Trust Sup--Listen fairly to my concerns				1.03
Trust Sup--Apply discipline fairly and only when justified				1.00
Trust Sup--Clearly communicate conduct expectations				.96
Trust Sup--Act with integrity				1.00*
Trust Sup--Refrain from favoritism				1.13
Trust Sup--Keep me informed				1.05

Note. All items are significant at $p < .001$. *Fixed.

Descriptive Statistics

The means, standard deviations, and reliability coefficients of the four confirmed scales, as well as the correlations among the factors are presented in Table 3. Table 4 contains the descriptive statistics of the scales for each of the cohorts. The means show that employees report being most satisfied with their rewards and recognition, compared to the other factors. However, the means for all four factors are relatively low, indicating general dissatisfaction with human capital management policies and practices in federal agencies. Although the correlations among the four factors are somewhat high, this is to be expected. From a human resource management approach, these systems are normally viewed as different, though related (Medsker et al., 2007).

Table 3

Means, Standard Deviations, Correlations, and Reliabilities for the Study Variables

Variable	<i>M</i>	<i>SD</i>	JS	RR	TD	ST
Job Satisfaction	2.05	.74	(.80)	.57	.67	.59
Rewards and Recognition	2.78	.98	.57	(.86)	.54	.59
Training and Development	2.30	.95	.67	.54	(.79)	.50
Supervisory Trust	2.20	.99	.59	.59	.50	(.96)

Note. *Ns* ranged from 33,653 to 35,944. All correlations are significant at $p < .001$. Alpha coefficients are along the diagonal in parentheses. JS = Job Satisfaction. RR = Rewards and Recognition. TD = Training and Development. ST = Supervisory Trust.

Table 4

Means and Standard Deviations of the Study Variables for the Four Generational Cohorts

Variable	Generational Cohort			
	Mature	Baby Boomer	Generation X	Generation Y
Job Satisfaction				
<i>M</i>	1.93	2.04	2.07	2.13
<i>SD</i>	.71	.75	.74	.73
Rewards and Recognition				
<i>M</i>	2.71	2.77	2.85	2.96
<i>SD</i>	.96	.98	.99	1.01
Training and Development				
<i>M</i>	2.22	2.29	2.33	2.24
<i>SD</i>	.92	.96	.95	.93
Supervisory Trust				
<i>M</i>	2.19	2.21	2.17	2.15
<i>SD</i>	.97	1.00	.98	.97

Note. Sample size for Matures ranged from 1,704-1,708. Sample size for Baby Boomers ranged from 20,469-20,512. Sample size for Generation Xers ranged from 8,760-8,779. Sample size for Generation Yers ranged from 98-100.

Structural Model

The hypothesized structural relationships between rewards and recognition, training and development, supervisory trust, and job satisfaction were estimated using the sample of Baby Boomer respondents. The results of this test are shown in Table 5.

Although the chi-square was significant, the values of CFI, TLI, and RMSEA indicate that this model fits the data reasonably well, explaining 76% of the variance in Baby Boomers' job satisfaction levels. These results combined with the significant parameter estimates suggest that Boomers' satisfaction with the rewards and recognition received, satisfaction with the training and development received, and their level of trust in their immediate supervisors were all significant predictors of their job satisfaction levels.

Table 5

Results of Structural Model Invariance Testing Across the Four Generational Cohorts

Model	χ^2	df	CFI	TLI	RMSEA	$\Delta\chi^2$	Δdf	ΔCFI
Baby Boomers	12,551.74	129	.96	.95	.07			
Matures	1,200.48	132	.96	.95	.07	11,351.26	3	.00
Generation X	5,679.65	132	.95	.94	.07	6,872.09	3	.01
Generation Y	294.52	132	.89	.87	.11	12,257.22	3	.07
Generation Y–RR	292.88	131	.89	.87	.11	12,258.86	2	.07
Generation Y–TD	291.99	130	.89	.87	.11	12,259.75	1	.07
Generation Y–all	290.98	129	.89	.87	.11	12,260.76	0	.07

Note. All χ^2 values are significant at $p < .001$. Changes in chi-square, degrees of freedom, and CFI values are from those of the Boomer model. Generation Y–RR indicates that the structural constraint for the path between the rewards and recognition and job satisfaction factors was removed. Generation Y–TD indicates that the structural constraints for the paths between the rewards and recognition and job satisfaction factors and between the training and development and job satisfaction factors were removed. Generation Y–all indicates that all constraints were removed.

To determine whether this same model held equally for the three remaining cohorts, the structural parameters in the Mature, Generation X, and Generation Y models were constrained to be equal to those parameters obtained from the freely-estimated Boomer model. The results of these tests for structural invariance across cohorts also are presented in Table 5. Examination of the model fit indices and ΔCFI values show that the hypothesized structural model is invariant for employees in the Baby Boomer, Mature, and Generation X cohorts. However, the fit indices and ΔCFI value did not support the presence of structural invariance for Generation Y employees. Thus, as suggested by Steenkamp and Baumgartner (1998), the structural constraints in the Generation Y model were freed one path at a time to explore reasons for this lack of invariance.

Given that previous research has clearly shown that differences exist between older and younger generations' satisfaction with rewards and recognition, the first constraint removed was on the relationship between rewards and recognition and job satisfaction. Table 5 shows that the model fit indices did not improve as a result of

freeing this path. This process was repeated by removing the constraints on the other two relationships, separately. However, the results continued to exhibit marginal model fit indices and ΔCFI values greater than $|.01|$. Accordingly, these results indicate that the relationships in the hypothesized model are not invariant across the four cohorts. In other words, the hypothesized model is significantly different, both statistically and practically, among Mature, Boomer, Generation X, and Generation Y federal employees. The unstandardized estimates for the hypothesized paths between rewards and recognition, training and development, supervisory trust, and job satisfaction among the cohorts are depicted in Figure 2.

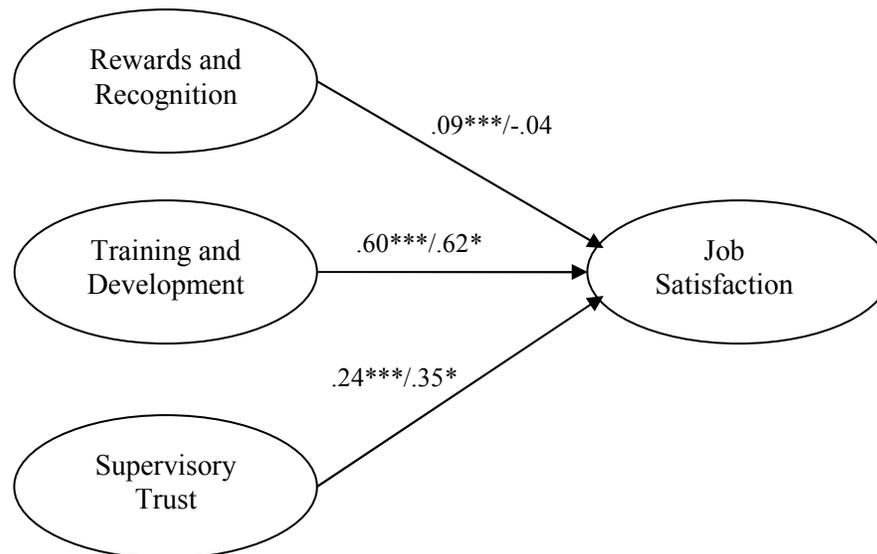


Figure 2. Unstandardized estimates for the structural paths in the model representing relations among rewards and recognition, training and development, supervisory trust, and job satisfaction in the four cohorts.

Note. The unstandardized estimates for the structural paths in the constrained model including Boomers, Generation Xers, and Matures are the first estimates, and the second estimates are the unstandardized estimates for the structural paths in the unconstrained Generational Y model.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Hypothesis 1a predicted that employees' satisfaction with the rewards and recognition received would be positively related to their levels of job satisfaction. Hypothesis 2a predicted that employees' satisfaction with the training and development received would be positively related to their levels of job satisfaction. Hypothesis 3a predicted that employees' trust in their supervisors would be positively related to their levels of job satisfaction. The positive directions of the path estimates from the Matures, Baby Boomer, and Generation X models shown in Figure 2 provide evidence to support these hypotheses. These results indicate that higher levels of satisfaction with rewards and recognition, higher levels of satisfaction with training and development, and higher levels of trust lead to higher levels of job satisfaction among the employees in these three cohorts. Although the path estimate between rewards and recognition and job satisfaction is negative in the Generation Y model, it is neither significant nor meaningful given the poor model fit.

The remaining three hypotheses involved examining the structural invariance of the cohort models and potential differences in the magnitudes of the structural paths. Hypothesis 1b stated that the rewards and recognition–job satisfaction relationship would be different across cohorts and stronger for employees in the older cohorts. Hypothesis 2b stated that the training and development–job satisfaction relationship would be different across cohorts and stronger for employees in the younger cohorts. Hypothesis 3b stated that the supervisory trust–job satisfaction relationship would be different across cohorts and stronger for employees in the older cohorts. The lack of invariance found indicates that the relationships are different for employees in the four cohorts. However, due to the inadequate fit of the Generation Y model, these three hypotheses could not be tested

completely. According to Garson (2009), parameter estimates from a poorly-fitting model are unreliable and not generalizable. Therefore, the structural estimates from the Generation Y model were not interpreted and compared to the other three cohorts. Consequently, the evidence of non-invariance shown in Table 5 provides partial support for Hypotheses 1b, 2b, and 3b.

Discussion

The objective of this study was to examine whether the relationships among employees' perceptions about human capital management and their job satisfaction levels hold equally for employees in the four generational cohorts present in the federal workforce. Using SEM to test the hypothesized model, partial support was provided for this model. However, the results also showed that these relationships varied across the cohorts.

Three of the hypotheses predicted that the relations between rewards and recognition and job satisfaction (Hypothesis 1a), training and development and job satisfaction (Hypothesis 2a), and supervisory trust and job satisfaction (Hypothesis 3a) would be positive and significant. The path estimates shown in Figure 2 support these three hypotheses, and they indicate that the more satisfied employees are with the rewards and recognition received, the more satisfied employees are with the training and development received, and the more they trust their supervisors, the happier they are with their jobs. Albeit only applicable to the Matures, Boomers, and Generation X employees in this study, these results also support positively-associated findings in the organizational behavior literature body (Dirks & Ferrin, 2002; Garrido et al., 2005; Lopez

et al., 2006) and confirms that this model of job satisfaction is not only applicable to private-sector employees but also applies to employees in public-sector organizations.

The remaining three hypotheses regarding cohort differences examined the differences in the relationships and compared the strength of the relationships across cohorts. Each of the hypotheses predicted that the relationships between rewards and recognition and job satisfaction (Hypothesis 1b), training and development and job satisfaction (Hypothesis 2b), and supervisory trust and job satisfaction (Hypothesis 3b) would differ across the cohorts. However, it was also hypothesized that the relationship between rewards and recognition and job satisfaction would be stronger for employees in the older generations (Hypothesis 1b), relations would be stronger for younger generations between training and development and job satisfaction (Hypothesis 2a), and relations between supervisory trust and job satisfaction would be stronger for older generations (Hypothesis 3a). The results of the structural invariance tests indicated that the structural relationships hold equally well for Mature, Boomer, and Generation X employees. However, the data did not fit the hypothesized model for Generation Y employees when the structural paths were constrained to be equal to those in the other models or when all of the structural paths were freed. This lack of fit of the data for the Generation Y model precluded interpretations (e.g., comparisons) of its estimates. Nevertheless, the lack of model equality alone provided partial support for the three hypotheses that the relationships do, in fact, differ across the four cohorts.

Structural Relationship Differences

Closer examination of the structural coefficients showed that the relationship between training and development and employees' job satisfaction levels is quite high

and stronger in magnitude than for the other two relationships. Although the reported low levels of satisfaction with training and development ($M = 2.30$) does not indicate that employees are highly satisfied with their current training and development opportunities, this result does show that employees' job satisfaction is strongly influenced by their happiness with their training and development opportunities. This result is similar to the findings from other research (Comm & Mathaisel, 2000), and lend credence to the speculations and findings of many researchers that agencies should view providing training and development opportunities as an investment strategy to increase not only job satisfaction but retention as well (Winterton, 2004).

The positive and significant path estimates for the relationship between supervisory trust and job satisfaction also is noteworthy. Much of the research body suggests that supervisors play an important role in the satisfaction of their employees, and this finding confirms the presence of this influence. In public-sector organizations, it is employees' first-line supervisors who communicate the significance of public-sector work to employees and help drive employee engagement (as cited in Trahant, 2008). However, research has shown that trust between managers and their employees is declining (Jeanquart-Barone, 1993; Kramer, 1999). Given the importance of trust in explaining employees' attitudes and behaviors at work (Robinson, 1996), the impact trust has on organizational effectiveness (Lynch, 2001; Phillips, 1997; Shockley-Zalabak, Ellis, & Winograd, 2000), and in light of this study's findings, agency leaders should continue to emphasize the importance of honesty and integrity among its leaders to maintain a satisfied and, thus, high-performing workforce.

A somewhat surprising finding was the low impact of employees' satisfaction with their rewards and recognition on their satisfaction with their jobs as indicated by the results. Although the means show that, of the four factors included in this study, employees were most satisfied with their rewards and recognition ($M = 2.78$), their satisfaction with their jobs does not seem to depend heavily on their compensation, rewards, and recognition. Given the changes in the pay and rewards programs being implemented in federal agencies, it was expected that these changes would be reflective of a stronger relationship between rewards and recognition and job satisfaction. However, this pattern of results is not unlike that shown in studies about other organizational outcomes. Meyer and Allen (1997) concluded it is not financial rewards that will develop organizational commitment; rather, employees' commitment to the organization is tied to whether the organization facilitates developing and building new skills. It is evident that this same pattern of results holds for federal employees, indicating that training and development are more instrumental in developing and building of higher job satisfaction levels than rewards and recognition.

Cohort Similarities and Differences in the Structural Relationships

Due to the results supporting the model's invariance for employees in the Mature, Boomer, and Generation X cohorts, the above results are applicable to employees in all three cohorts. This evidence was not unexpected, particularly regarding the similarity in the perceptions and attitudes of Boomers and Generation Xers. Some researchers have speculated that late Boomers (those born later in the cohort's birth-year period) have values similar to Generation Xers' (Kupperschmidt, 2000). This line of research has been supported by researchers at Duke University, who found two distinct groups of Baby

Boomers using census data (Giancola, 2007). Given the 19-year span of birth years for the Boomer generation, Hecht (2007) reported that, in 2003, the oldest individual in the Boomer generation was 60 years old, and the youngest was 43. This further supports the possible presence of two unique groups given that the time span allows for older Boomers to be the parents of younger Boomers and thus, for those younger Boomers to have values, expectations, and attitudes more similar to those in the next cohort, Generation X, than those of their parents.

It was unfortunate that the model did not hold for Generation Y employees given the low number of research studies comparing these employees to employees in the older generational cohorts. Although there are several possible reasons for the lack of fit (e.g., poorly specified measurement model), the most obvious one is due to the very small sample size ($n < 100$; Garson, 2009). As a result, it is unclear whether the non-invariance is truly indicative of cohort differences in the structural model or statistical power in the analyses.

Implications for Practice and Research

Overall, these results are still useful. The job satisfaction model tested here expands the understanding of potential drivers of job satisfaction levels in federal employees, and encourages the development of new research. The findings from this study suggest that the generation-specific changes to human capital policies and practices may not be warranted given the similarities in the *impact* of employees' perceptions on their attitudes. Although differences in means on the various scales used by federal agencies have been, and may continue to be, observed, how these attitudes affect key

organizational outcomes, such as job satisfaction, organizational commitment, performance, and turnover behaviors should be of greater concern.

In addition, inclusion of the particular factors examined here adds to the applicability and significance of this study's results to agency leaders. Due to the concentrated efforts and emphasis on human capital management in federal agencies, HR professionals, researchers, and leaders use the results of federal employee satisfaction levels on scales related to training and development (e.g., talent management), job satisfaction, rewards and recognition (results-oriented performance culture) to modify and evaluate progress on strategic goals and objectives. It is critical that these measures be evaluated to appropriately compare across subgroups (e.g., generational cohorts) of interest.

Finally, this study builds on the relatively scant literature that deals with generational differences among federal employees. Previous studies have been based on the differences and characteristics primarily described in qualitative research, which has often lacked empirical support (Jorgensen, 2003). Thus, the current study contributes to this literature body by extending our knowledge about generational differences as a whole and among federal employees, and by using a more sophisticated statistical analysis procedure to test the relationships. However, this study is an analysis of data from employees in 24 federal agencies. Accordingly, to ensure agencies develop the most appropriate actions for their organizational environment, it is recommended that future analyses be conducted within a single agency. Testing this model within a single agency may be particularly relevant when examining the impact of certain systems, such as an agency's reward and recognition program, on its own employees' job satisfaction levels.

Limitations and Future Direction

The findings for the present research should be interpreted within the context of a few limitations. First, the analyses were conducted using employee perceptions at the individual level of analysis instead of at the agency level. Conducting the analyses at this level was pursued to explore a general model of attitudes and obtain results that were representative of the federal workforce across the government. However, future studies should use other statistical methods (e.g., hierarchical linear modeling) to assess the relationships while accounting for the level (or strength) of agreement in attitudes at the department- or agency-level.

Another potential limitation is that this study was cross-sectional; the data were collected at one point in time and using only one method. Therefore, it is difficult to draw inferences from these correlational data. Extending this research by including MPS data from more recent years and comparing the models over time should enhance the confidence in these findings.

Third, the structural model tested here was quite simple. Researchers are encouraged to examine whether there are important moderators, such as tenure, of the effects examined in the present study. Furthermore, future research is needed to expand the current model to include other pertinent variables, such as turnover behaviors and turnover intentions.

Finally, additional research should be conducted to adequately test the measurement invariance of the scales used before proceeding with any action plans based on subgroup differences. According to Vandenberg and Lance (2000), it is not only probable that the measure represents different constructs for the subgroups, the same

model may not fit both groups, employees from the different subgroups could be interpreting the items in different ways, and respondents may be using the response scales differently.

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Appendix A
Survey Items Used in This Study

Job Satisfaction

My opinions count at work.
I know what is expected of me on the job.
The work I do is meaningful to me.
In general, I am satisfied with my job.

Rewards and Recognition

Recognition and rewards are based on performance in my work unit.
My organization takes steps to ensure that employees are appropriately paid and rewarded.
If I perform well, it is likely I will receive a cash award or pay increase.
I am satisfied with the recognition and awards I receive for my work.

Training and Development

I am given a real opportunity to improve my skills in my organization.
I receive the training I need to perform my job.

Supervisory Trust

I trust my supervisor to fairly assess my performance and contributions.
I trust my supervisor to support me in pay and award discussions with upper management.
I trust my supervisor to listen fairly to my concerns
I trust my supervisor to apply discipline fairly and only when justified.
I trust my supervisor to clearly communicate conduct expectations.
I trust my supervisor to act with integrity.
I trust my supervisor to refrain from favoritism.
I trust my supervisor to keep me informed.

Appendix B
Twenty-four Federal Agencies Represented in 2005 MPS

Department of Agriculture
Department of Commerce
Department of Defense
 Air Force
 Army
 Navy
Department of Education
Department of Energy
Environmental Protection Agency
Federal Deposit Insurance Corporation
General Services Administration
Department of Homeland Security
Department of Health and Human Services
Department of Housing and Urban Development
Department of Justice
Department of Labor
Department of Interior
National Aeronautics and Space Administration
Office of Personnel Management
Social Security Administration
Department of State
Department of Transportation
Department of Treasury
Department of Veteran Affairs