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WHAT DOES IT TAKE TO MOTIVATE BETTER PERFORMANCE AND PRODUCTIVITY IN THE FEDERAL WORKPLACE? ASK THE EMPLOYEES.

A Dissertation
Presented to
The Academic Faculty

By

Sue Ann Frank

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Philosophy in Public Policy

The Andrew Young School of Policy Studies
Georgia State University
and
The School of Public Policy
Georgia Institute of Technology

May, 2011

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WHAT DOES IT TAKE TO MOTIVATE BETTER PERFORMANCE AND PRODUCTIVITY IN THE FEDERAL WORKPLACE? ASK THE EMPLOYEES.

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I dedicate this dissertation to my mother who always told me I could achieve anything.
Thankfully, I believed her.

ACKNOWLEDGEMENTS

I would like to express my gratitude to everyone who helped me during my doctoral studies. First and foremost, I wish to thank Dr. Gregory B. Lewis for serving as my teacher, mentor, and dissertation chairperson. I'm grateful for his academic guidance, constructive criticism, unwavering support, and generosity in sharing his time, knowledge, and statistical skills with me. My work is so much better because of him.

Second, I am grateful for the comments and contributions of my dissertation committee members – Dr. Gordon A. Kingsley, Dr. Lloyd G. Nigro, Dr. David W. Pitts, and Dr. William L. Waugh. They devoted their time and offered their expertise and encouragement freely. They stood by me from beginning to end which demonstrates true dedication.

Third, I would like to extend my sincere thanks to all of the people who helped me along the way and ensured my successful completion of this process. I wish to thank the faculty, staff, and academic advisors at Georgia State University and the Georgia Institute of Technology for their advice and assistance.

Fourth, I would like to thank the U.S. Merit Systems Protection Board for administering surveys to federal employees and making their data available to the public.

Finally, special thanks are given to my mother, Sally Harvey, for her unconditional love and overwhelming encouragement. Words alone could never convey how grateful I am to have a mother who has supported me in every endeavor throughout my life. For all that I am and all that I've achieved, I owe everything to her.

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LIST OF ABBREVIATIONS

CSRA	Civil Service Reform Act of 1978
DHS	U.S. Department of Homeland Security
DOD	U.S. Department of Defense
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
FAA	U.S. Federal Aviation Administration
FDIC	U.S. Federal Deposit Insurance Corporation
GAO	U.S. General Accounting Office (later renamed the U.S. Government Accountability Office)
GPRA	Government Performance and Results Act of 1993
GS	General Schedule
GSA	U.S. General Services Administration
HHS	U.S. Health and Human Services
HUD	U.S. Housing and Urban Development
IRS	U.S. Internal Revenue Service
MSPB	U.S. Merit Systems Protection Board
NAPA	National Academy of Public Administration
NASA	National Aeronautics and Space Administration
NPR	National Performance Review
NSPS	National Security Personnel System
OMB	U.S. Office of Management and Budget
OPM	U.S. Office of Personnel Management
PMA	President's Management Agenda

PMRS	Performance Management and Recognition System
PSM	Public Service Motivation
SSA	U.S. Social Security Administration
VA	U.S. Veterans Affairs

SUMMARY

The federal government is often criticized for performance that fails to meet the public's expectations. Its traditional pay system receives much of the blame for rewarding seniority instead of performance. While everyone agrees that performance matters, they don't always agree on the best way to improve it. My research investigates human resource management strategies designed to motivate better performance and productivity. Specifically, I examine the credibility and feasibility of implementing pay for performance throughout the federal government and identify ways that managers can promote greater productivity through human capital investment. I conduct an extensive review of work motivation theories and synthesize findings from previous academic and government studies in order to develop models that are tailored to the federal workplace. I test these models using federal survey data from the Merit Principles Surveys of 2000 and 2005. A variety of attitudes, perceptions, expectations, and work environment factors are expected to influence job performance. Findings reveal that pay for performance belief and success are greatly affected by performance management, fair treatment in all personnel matters, supervisory fairness in decision-making, and organizational culture. Further results indicate that managers can markedly improve productivity by ensuring employees are highly engaged in their work, delivering effective performance management, providing a supportive organizational culture, and giving employees adequate resources and training. With federal agencies constantly striving to improve performance and productivity, these findings have practical implications for

government as they suggest ways that public managers can achieve better performance and greater productivity through increased work motivation.

CHAPTER 1

INTRODUCTION

Effective management of human resources is necessary for any organization to achieve high performance. This is especially true in government where performance is constantly scrutinized by a variety of stakeholders. In an atmosphere of fiscal constraint, it's imperative that government agencies accomplish their missions as efficiently and effectively as possible. Motivation represents a key element of employee performance and productivity, making it a central part of human resource management (Berman, Bowman, West, & Van Wart, 2010). Motivation and ability together determine individual performance (Miner, 2005; Pinder, 1998; Rainey, 2001). Fortunately, both can be influenced externally by managers.

Work motivation is an important topic for scholars and managers alike because of its effect on performance in the workplace. Research on work motivation has many practical applications pertaining to specific work-related behaviors such as: accepting a job with a particular organization (entry decision); showing up for work each day (attendance or absenteeism); being on-time or late for work (punctuality or tardiness); following supervisory orders (obedience); working hard or goofing off (level of work effort); inventing new ways to perform on the job (creativity); staying with an organization (commitment); and deciding to retire or resign (exit decision). The study of work motivation helps scholars identify and understand factors that motivate individual performance, while simultaneously providing managers with practical ways of influencing employee performance in order to achieve organizational goals. Despite

years of study, no single, unifying theory of work motivation can account for the wide range of behavior found in the workplace. Since people are motivated by a variety of needs (Berman, 2006; Pinder, 2008), work motivation theories are multifaceted – encompassing factors that are inherent to individuals (intrinsic), related to external circumstances (extrinsic), and pertaining to social interactions (interpersonal) (Berman et al., 2010).

While motivation is widely recognized as important, few studies have focused on the motivational aspects of public sector performance, and fewer still have examined the topic from the perspective of public employees. The main purpose of this research is to advance our understanding of work motivation by identifying factors that affect employee performance and productivity. My research investigates human resource management strategies designed to motivate better performance and productivity, with emphasis on things that managers can do to improve overall performance. Survey data is used to evaluate the condition of the federal workplace. If you listen closely to the data, you will hear the voices of several thousand federal employees identifying what's wrong with the government and suggesting ways to improve it.

My dissertation utilizes a three paper format which focuses attention on current federal strategies for improving employee performance and productivity. Specifically, I examine the credibility and feasibility of implementing pay for performance throughout the federal government and identify ways that managers can promote greater productivity through human capital investment. I conduct an extensive review of work motivation theories and synthesize findings from previous academic and government studies in order to develop models that are tailored to the federal workplace.

I test these models using federal survey data from the Merit Principles Surveys of 2000 and 2005, which are administered by the U.S. Merit Systems Protection Board (MSPB). My findings have practical applications in government as they emphasize the importance of employee perceptions regarding their work environment and suggest ways that managers can achieve better performance and greater productivity through improved work motivation.

Chapter Two introduces pay for performance as a popular strategy for improving performance in both the private and public sectors. The federal government is often criticized for performance that fails to meet the public's expectations. Much of the blame is placed on traditional compensation systems that reward seniority instead of performance. Adopting pay for performance is one attractive solution to government performance problems. Unfortunately, merely adopting pay for performance won't solve performance problems. In order to motivate better job performance, employees must believe that better performance will lead to promised rewards. Without this fundamental belief, pay for performance loses its motivational power. Therefore, this study asks the question: What causes people to believe in pay for performance? To answer this question, I conduct an extensive literature review covering the motivational power of rewards, theoretical and empirical support for pay for performance, and the importance of perceptions. Based on the literature, I identify factors expected to influence pay for performance belief. Using data from the Merit Principles Survey of 2005, I analyze employee perceptions of the link between performance and rewards in the federal government. My study tests five hypotheses with a logistic regression model to see whether positive perceptions of (1) the performance evaluation system, (2) fair treatment

regarding personnel matters, (3) supervisory fairness in pay for performance decisions, (4) trust in decision-makers, and (5) the organizational culture influence the belief that better performance leads to more pay in the federal workplace. My findings reveal the importance of workplace perceptions and their potential impact on the use of pay for performance throughout the federal government.

Chapter Three examines the feasibility of implementing pay for performance throughout the federal government. After 30 years of pay for performance experimentation, the federal government has delivered more promises than results. Speculation continues about whether pay for performance programs have failed due to poor implementation or flawed motivational theory, but the problem may lie elsewhere. Many experts believe that successful implementation of organizational change depends on readiness for change as indicated by employee attitudes and the organizational context supporting the change. Until now, no one has attempted to measure the federal government's level of readiness for implementing change. This study poses the question: Is the federal government ready for pay for performance? To answer this question, I review academic and government literature to reveal factors expected to influence successful organizational change and identify pay for performance criteria for success. Using data from the Merit Principles Survey of 2005, I develop and apply a scorecard assessment that evaluates federal agency readiness for successfully implementing pay for performance. This study highlights the importance of assessing readiness prior to introducing change initiatives. Results indicate substantial variation in levels of readiness across federal agencies and identify problem areas needing improvement before proceeding with pay for performance implementation.

Chapter Four examines federal productivity from a human capital perspective. Historically, capital investment in better equipment, facilities, and technology has been the greatest source of productivity improvements. Consequently, the human side of productivity has been largely ignored. This study proposes a different type of capital investment – one that focuses on investing in human capital to increase productivity. My research asks the question: How can federal managers promote greater productivity? I answer this question by reviewing government studies and academic literature in order to identify factors expected to motivate greater employee productivity. Responses from the Merit Principles Survey of 2000 are analyzed to see what federal employees receive from their work environment that either helps or hinders productivity. Using multiple regression analysis, I investigate six hypotheses to determine whether positive perceptions of resources and training, employee engagement, rewards and quality of work life, performance management, fair treatment on the job, and organizational culture, will promote greater productivity. Findings show that by giving employees adequate resources and training, engaging employees in their work, delivering effective performance management, and providing a positive organizational culture, managers can markedly improve federal productivity.

At the conclusion of this dissertation, our knowledge and understanding of work motivation and human resource management should be expanded to include new ways of thinking about pay for performance, factors related to a belief in the promise of pay for performance, increased awareness of the need for pay for performance readiness prior to implementation, and practical suggestions for improving productivity in the federal workplace. Chapter Two evaluates the credibility of pay for performance among federal

employees. Descriptive statistics indicate whether the federal government has been able to convince employees that better performance leads to more pay, while logit results determine which factors have the greatest impact on pay for performance belief. In Chapter Three, I measure pay for performance readiness throughout the federal government by developing and applying a scorecard technique that can be used as a template for organizations considering the use of pay for performance. Results show how readiness for organizational change can impact the success of pay for performance reforms. Chapter Four uses multiple regression analysis to identify which factors significantly affect federal productivity, determine the relative importance of each factor, and highlight areas needing the most attention to improve federal productivity. Overall findings demonstrate the usefulness of survey data in identifying problem areas which should be addressed before making major organizational changes, as well as the importance of employee perceptions and work motivation techniques in successfully implementing pay for performance, achieving better performance, and promoting greater productivity throughout the federal government.

CHAPTER 2

PAY FOR PERFORMANCE CREDIBILITY

Public demands for improved government performance and increased accountability for results have launched several national reforms over the last 40 years. Prominent examples include the Civil Service Reform Act (CSRA) of 1978, the Government Performance and Results Act (GPRA) of 1993, the National Performance Review (NPR) of 1993, and the President's Management Agenda (PMA) issued in 2001. Although differing in their approach to performance improvement, particularly in the relative emphasis placed on individual and organizational performance, they were all driven by the critical need to improve federal performance. The current trend towards pay for performance represents the latest in a long line of government improvement efforts.

Pay for performance is a popular strategy for improving performance among both private sector companies and government agencies (Halachmi & Holzer, 1987). The concept was introduced in the private sector and spread throughout American government during the 1980s (Condrey & Kellough, 1993; Ingraham, 1993; U.S. General Accounting Office [GAO[1]], 1990a). Adopting a pay for performance system is one way for organizations to demonstrate their commitment to high performance (Heneman & Werner, 2005). Currently, national policymakers appear ready and willing to overhaul

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[1] On July 7, 2004, under Public Law 108-271, U.S. GAO changed its legal name from the U.S. General Accounting Office to the U.S. Government Accountability Office (see Report No: GAO-04-976T).

the government's traditional tenure-based compensation systems in favor of performance-based pay. The Department of Defense (DOD) and the Department of Homeland Security (DHS) received authorization to develop their own performance-based pay systems under the Homeland Security Act of 2002. This event represents a significant shift in federal compensation "from recognizing tenure to focusing on performance" that may spread throughout the entire federal community (U.S. MSPB, 2006, p. ix). Needless to say, enacting a new policy is much easier than successfully implementing one (Pressman & Wildavsky, 1984). Trying to make pay for performance work in a government setting is no exception to that rule. Although progress is proceeding more slowly at Homeland Security, the Department of Defense has transitioned over 182,000 civilian employees into their pay for performance system called the National Security Personnel System (NSPS) as of May 2008 (U.S. GAO, 2008).

While the success of pay for performance depends on many factors, the most important motivational element is the fundamental belief among employees that better performance will lead to promised rewards. Without this instrumental belief, pay for performance loses its motivational power. Considering the federal government's history of rewarding employees for tenure more than performance (U.S. Office of Personnel Management [OPM], 2002) and the difficulty in establishing a link between performance and monetary rewards with limited funding and an abundance of personnel regulations, an even bigger challenge lies ahead: Once government agencies promise to reward employees for improved performance, how will they make believers out of federal employees?

Although the impact of pay for performance strategies has been widely studied, few have examined the topic from the perspective of employees or tried to determine what causes employees to believe that performance is linked to rewards. My research attempts to fill this gap by developing a causal model to explain why some employees believe that better performance will lead to more pay and others don't. Drawing from theoretical and empirical evidence, I identify factors that should influence the belief that performance is tied to rewards. Using data from the Merit Principles Survey of 2005, I begin by analyzing the perceptions, values, and attitudes of federal employees to confirm my motivational hypotheses. Next, I test my model to see if a belief that better performance leads to more pay is significantly related to employee perceptions of the performance evaluation system, fair treatment regarding personnel decisions, supervisory fairness of pay for performance decisions, trust in decision-makers, and organizational culture. Finally, I discuss the implications of my findings regarding the potential for successfully implementing pay for performance throughout the federal government.

This study makes three contributions to the pay for performance literature. First, it focuses on the perceived relationship between pay and performance which is valuable because perceptions influence employee motivation and behavior. As Kellough and Kim (2008) point out: "Whether perceptions are grounded in objective reality or not … they are grounded in truth from the individual employee's perspective, and consequently, they impact employee behavior" (p. 1). Despite their importance, scholars note that little research has focused on perceptions (Heneman & Werner, 2005). Second, prior research on pay for performance beliefs only considered a few explanatory variables. To the best of my knowledge, this study is the first to construct and test a more comprehensive,

theory-based model to explain what influences employee belief in the promise of pay for performance. Third, this study's results have many practical applications. Improving our understanding of pay for performance perceptions can provide valuable insights into work motivation, behaviors, and performance. Identifying what causes employees to believe in pay for performance may help organizations to design and implement better pay for performance programs with increased chances for success.

Literature Review

The Motivational Power of Rewards

The workplace offers many different types of rewards. Intrinsic rewards are related to the content of the work itself (job content), while extrinsic rewards are related to job context (Herzberg, 1956, 1966; Herzberg, Mausner, & Snyderman, 1959). Intrinsic motivation comes from within the individual and emphasizes rewards derived directly from the work itself, thereby satisfying needs for achievement, self-esteem, competence, and self-actualization (Pinder, 1998). By contrast, extrinsic motivators are drawn from external sources and consist of rewards that are more easily controlled by employers, such as pay, monetary rewards, fringe benefits, flexible workplace, supervisory relations, job security, and opportunities for advancement (Kaufman & Fetters, 1980; Pinder, 1998; Walker, Tausky, & Oliver, 1982).

Compensation represents the most powerful extrinsic reward in the workplace and is considered one of the strongest determinants of employee attitudes, motivation, and behaviors (Gerhart & Milkovich, 1992). Findings from Lawler's research suggest that pay can satisfy both lower-order and higher-order needs (Lawler, 1971, 1981, 1983).

Pay can also have symbolic meaning when viewed as recognition for achievement (Lawler, 1990). Research conducted by Locke and associates has shown pay to be an effective method of motivating employee performance (Bartol & Locke, 2000; Locke, Feren, McCaleb, Shaw, & Denny, 1980). However, the power of money as a performance incentive depends on availability of funds, which is usually problematic for public agencies. Financial incentives can only influence behavior if adequate funding is available to deliver meaningful rewards. Employees will only be motivated if pay raises are large enough to make a difference (Lawler, 1981b).

Although money can be a powerful motivator, research warns against the use of monetary incentives under the wrong organizational circumstances. Lawler's (1971) findings suggest that money should not be used as a motivational incentive in organizations with low trust levels, where performance is hard to measure or measured subjectively, and where top performers cannot receive sufficiently large pay rewards. Organizational theory and extensive private sector experience predict the failure of financial incentive systems if employees do not see a link between pay and performance (Perry, 1995). One of the most significant barriers to using money as a performance incentive is the limited pool of funds available to federal agencies which often renders the number and size of awards too few and too small to make a difference. Financial incentive reforms involving monetary bonuses and performance awards have a very high failure rate in public organizations (Ingraham, 2003). Insufficient funding has been cited as one of the leading causes of failure among pay for performance programs in government (Pearce, 1989; Perry, 1988-89, 2003; Milkovich & Wigdor, 1991; Rainey & Kellough, 2000; U.S. GAO, 1990a).

Of equal importance are the opportunities for intrinsic rewards that can be derived from public service. Public service motivation (PSM) theory contends that public employees are motivated differently than private sector employees (Perry, 1997; Perry & Porter, 1982; Perry & Wise, 1990; Wittmer, 1991). One major motivational distinction is that public sector employees appear to be more intrinsically motivated. Individuals motivated by public service share several common characteristics, including compassion and self-sacrifice (Perry, 1996), a desire to participate in the formulation of good public policy (Kelman, 1987), and a commitment to serve the public interest (Perry, 1996; Perry & Wise, 1990; Rainey, 1982). Public sector employees also appear to value intrinsic rewards more than private sector employees do (Boyne, 2002; Crewson, 1997; Karl & Sutton, 1998; Kilpatrick, Cummings, & Jennings, 1964; Perry & Porter, 1982; Rainey, 1982; Wittmer, 1991; Wright, 2001). Individuals who place greater value on intrinsic rewards tend to be more motivated by work that is interesting, challenging, useful to society, and self-directive, as well as work providing opportunities for service, decision making, personal growth, creativity, and collegial recognition (Herzberg et al., 1959; Kaufman & Fetters, 1980; Nord, Brief, Atieh, & Doherty, 1988; Pinder, 1998; Walker et al., 1982). The motivating power of financial incentives could be seriously diminished in the public sector if employees prefer intrinsic over extrinsic rewards.

While the combined effects of intrinsic and extrinsic incentives have been widely studied, critics argue against placing too much emphasis on extrinsic rewards in the workplace. Originally, scholars assumed that the effects of intrinsic and extrinsic rewards on performance were additive (Porter & Lawler, 1968). However, research by Deci (1972) and associates (Deci & Ryan, 1985) suggested that extrinsic rewards reduced

intrinsic motivation by decreasing feelings of choice and self-determination normally derived from performing a task. Deci's work (known as cognitive evaluation theory) recommended that effective rewards provide at least an illusion of choice and focus attention more on task performance than on the mere attainment of rewards. So far, research on whether extrinsic rewards have a detrimental effect on intrinsic motivation does not support Deci's theory. Several empirical studies found that performance-based pay does not reduce intrinsic motivation (Eisenberger & Cameron, 1996), and one study found it may actually increase intrinsic motivation (Scott, Farh, & Podsakoff, 1988). Despite this evidence, some continue to argue that rewards decrease intrinsic motivation (Pfeffer, 1998), while others find little evidence to support it (Gerhart & Rynes, 2003; Heneman & Werner, 2005). After a great deal of study, the debate over whether extrinsic rewards reduce intrinsic motivation continues (Rynes, Gerhart, & Parks, 2005).

It's important for organizations to recognize that employees are motivated by more than just money. A fatal flaw of any reward program is to rely solely on a single type of reward. Lawler (1981b) noted that intrinsic and extrinsic rewards satisfy different needs and that most employees are motivated by both. Organizations utilizing monetary rewards need to take advantage of other motivational factors such as personal pride or satisfaction in work (U.S. MSPB, 2006). Traditional reward programs have historically centered on extrinsic rewards in the form of salary, bonus pay, and benefits (Heneman, 2002; Rynes & Gerhart, 2000). While scholars acknowledge the importance of both intrinsic and extrinsic motivation in the workplace, government reform efforts have spent the last twenty years focusing primarily on extrinsic incentives (Rainey, 2003).

Changes in the nature of work during the 21st century have prompted some to question this emphasis on extrinsic rewards. Heneman and Schutt (2002) propose moving away from traditional reward systems towards a total rewards philosophy that includes providing learning opportunities to help employees broaden their skill sets, designing more meaningful jobs, and offering flexibility of choice to match individual employees with the kind of rewards they value the most. When developing motivational pay strategies, Lawler (2000b) believes that any reward can motivate behavior as long as it is valued by the employee. Because decisions regarding rewards are not mutually exclusive, organizations don't need to choose between intrinsic and extrinsic rewards. What's most important is that organizations meet both intrinsic and extrinsic needs in order to maximize work motivation. The greatest challenge for management today lies in identifying which rewards are most important to their employees and customizing reward systems to motivate each individual.

Pay for Performance: Theoretical and Empirical Support

The concept of pay for performance offers a deceptively simple solution to complex performance problems. The logic behind pay for performance suggests that poor performance is more likely to occur when people are paid the same amount regardless of their performance; conversely, performance improvement is more likely to result when pay and performance are effectively linked (Lawler, 1990, 2000b). The National Commission on the Public Service (Volcker, 2003) cited ineffective incentive systems as a major cause of government performance problems. In addition, several meta-analyses support the conclusion that strengthening the connection between pay and performance can be an effective method of improving performance (Jenkins, Mitra,

Gupta, & Shaw, 1998; Locke et al., 1980). Hence, making pay and rewards contingent upon performance should motivate employees to perform at higher levels.

Several psychological theories support the premise that linking rewards to performance can stimulate performance improvement by increasing employee motivation. Expectancy theory offers the strongest support for linking pay to performance as a motivational incentive. First proposed by Victor H. Vroom (1964) and refined by others (e.g., Porter & Lawler, 1968), expectancy theory states that work motivation is determined by a perceived probability between effort, performance, and outcomes (e.g., rewards). Motivation to perform is maximized when an individual believes that personal effort will lead to better performance (effort-performance expectancy) resulting in rewards (performance-outcome expectancy) that are highly valued (valence). Motivating better performance with pay also requires that performance standards be achievable and accurately measured, the relationship between pay and performance be clearly defined, and employees have opportunities to demonstrate and improve their performance (Heneman & Werner, 2005). Over the years, expectancy theory has received empirical support from a large body of research (see reviews conducted by Ambrose & Kulik, 1999; Van Eerde & Thierry, 1996) and gained acceptance among scholars (Bartol & Locke, 2000; Lawler, 2000b; Miner, 2005; Pinder, 1998).

Reinforcement theory also supports the pay for performance concept (Heneman & Werner, 2005; Kellough, 2006; Perry, 1991). Derived from B.F. Skinner's (1953) work on operant conditioning and later tested in the workplace by several researchers (Luthans & Kreitner, 1975, 1985; Luthans & Stajkovic, 1999), reinforcement theory posits that

behavior is determined by its consequences. Behavior tends to be repeated if it leads to a positive outcome and avoided if it leads to a negative outcome (Skinner, 1953, 1969). The reinforcement effect is strengthened when the desired performance is clearly defined, when a valued reward is made contingent upon performance, when the timing of rewards is immediate and directly linked to performance, and when the size of rewards matches the magnitude of increased performance. Current research on behavioral management and organizational behavior modification support the use of reinforcement theory as a method of improving performance in the workplace (Luthans & Stajkovic, 1999; Stajkovic & Luthans, 1997, 2001, 2003).

Equity theory directly addresses the issue of money in the workplace and plays a key role in determining the impact of pay for performance programs. Equity theory states that individuals assess their work contributions and rewards relative to other employees and alter their behavior according to their perception of equitable treatment (Adams, 1965). To have a positive impact on work motivation, reward systems must be perceived as fair by employees. Perceived equity exists when employees feel they and those around them get the rewards they deserve for their contributions to the organization. Inequity is perceived whenever employees feel themselves or others to be overcompensated or undercompensated for their work. Such perceived inequity prompts employees to adjust their work behavior to reduce the inequity or avoid it altogether by leaving the organization. If employees see top performers receiving the same pay and rewards as poor performers, this creates a sense of inequity which tends to have a demoralizing and demotivating effect on the best performers (Thompson & Rainey, 2003). In order to achieve its maximum motivational potential, employees must believe

they will receive the rewards they think they deserve under a pay for performance system.

Several reviews of equity research indicate strong support for the theory (Ambrose & Kulik, 1999; Greenberg, 1990; Miner, 2005; Mowday, 1996), but it's not without limitations. Research consistently supports equity theory predictions regarding the impact of undercompensation and underreward leading to reduced effort, diminished performance, increased absenteeism and turnover (Bartol & Durham, 2000; Greenberg, 1982; Summers & Hendrix, 1991), but findings on the effects of overcompensation have been less consistent (Mowday, 1991). Equity theory is also criticized for being vague as to which type of behavior is most likely to occur within a particular context (Greenberg, 1990). Because of these limitations, the theory fell out of favor for a while in the organizational behavior literature (Ambrose & Kulik, 1999).

A resurgence of equity theory research has occurred over the past 20 years due to its expansion into the area of organizational justice (see Greenberg, 1986, 1987a, 1987b, 1990, 2001; Greenberg & Colquitt, 2005). Current organizational behavior research on equity theory utilizes a justice framework which suggests that both process (procedural justice) and outcomes (distributive justice) influence employee behavior in the workplace (Greenberg, 1990). Further research investigates whether some employees are more sensitive to equity or justice issues than others (Huseman, Hatfield, & Miles, 1987; Miles, Hatfield, & Huseman, 1994; Sauley & Bedein, 2000). Overall, equity theory highlights the importance of fairness perceptions and social comparisons in motivating work-related behavior (Gerhart & Rynes, 2003; Heneman & Werner, 2005). If the

volume of research on equity theory in an organizational justice context is any indication, the usefulness of this theory has yet to reach its full potential.

The Importance of Perceptions

Even with the help of theoretical principles for guidance, effectively linking performance to rewards in a way that motivates better performance remains a challenge for any organization. Merely adopting a performance-based pay plan does not guarantee the desired result of improved performance. In their book, *Merit Pay: Linking Pay to Performance in a Changing World*, Heneman and Werner (2005) emphasize that "the perceived relationship between pay and performance is as important as the actual relationship" (p. 16). It's not enough to tell employees that performance matters. Employees must see that the relationship between performance and rewards is real for it to have any motivating power (Eskew & Heneman, 1996). Many pay for performance plans have failed because employees failed to <u>see</u> a connection between performance and rewards (Heneman & Werner, 2005).

Evidence from the public sector suggests that employee expectations and perceptions of the relationship between performance and rewards do not support a pay for performance philosophy. Previous research consistently shows that public employees perceive weaker relationships between performance and pay, promotion, and disciplinary action than private workers do (Coursey & Rainey, 1990; Lachman, 1985; Porter & Lawler, 1968; Rainey 1979, 1983; Rainey, Traut & Blunt 1986; Solomon, 1986). Recent government surveys illustrate that poor performance isn't being dealt with effectively. According to the 2002 and 2004 Federal Human Capital Surveys conducted by the U.S. Office of Personnel Management, only one quarter of federal employees agreed that steps

were taken to deal with poor performers, while nearly half disagreed with the statement (U.S. GAO, 2005a). The Merit Principles Surveys conducted in 2000 and 2005 revealed similar results with few employees agreeing that their supervisor deals effectively with poor performers (17 percent agreed in 2000, 35 percent agreed in 2005). In 2002, U.S. OPM described the current General Schedule (GS) pay system as "performance insensitive," commenting that: "The Federal white-collar pay system sends and reinforces the message that performance does not matter" (p. 17). Over 75 percent of federal pay increases consist of time-based within-grade increases (WGI), cost of living adjustments (COLA), and locality pay – none of which are tied to performance (U.S. OPM, 2002). With a pay system like that, it's no wonder that few federal workers in the past have expected any rewards for good performance or punishment for poor performance (U.S. MSPB, 1982, 1995, 1999). Such a long history of low expectations will not be easy to change.

The Civil Service Reform Act of 1978 introduced pay for performance into the federal government in the form of merit pay. While pay for performance comes in a variety of forms, merit pay is the most common type of incentive plan that uses individual performance evaluations as the basis for merit pay increases (Heneman, 1992). Federal merit pay linked annual pay increases to individual performance appraisals for federal managers (grades 13 to 15). The federal government's experiment with merit pay lasted 12 years from 1981 to 1993 and featured overwhelming problems and underwhelming results. The Merit Pay System began in 1981 with great expectations. Problems quickly led to its demise and creation of the Performance Management and Recognition System (PMRS) in 1984. Although PMRS improved upon the original plan,

it was eventually discontinued due to several serious problems including: a failure to establish an actual or perceived relationship between pay and performance; a lack of adequate funding for rewards; employee perceptions that performance appraisals were unfair and influenced by nonperformance factors; and managerial distaste for confrontation and reluctance to spend the time required to document poor performance (Heneman, 1992; Heneman & Werner, 2005; Milkovich & Wigdor, 1991; Perry, 1991; Rainey & Kellough, 2000).

Several studies reviewing pay for performance systems in the public sector concluded that they were generally unsuccessful, having little positive effect on employee motivation or performance and failing to show a significant link between pay and performance (Ingraham, 1993; Kellough & Lu, 1993; Milkovich & Wigdor, 1991; Perry, 1988-89). Undoubtedly, the impact of this failed attempt at merit pay left an impression on the federal workforce and organizational landscape. Federal employees can be expected to view the latest pay for performance policies with greater skepticism the second time around.

Despite its poor track record, pay for performance has retained its popularity among policymakers, making it something of a paradox (Kellough & Lu, 1993). Undaunted by previous failures and fueled by increasing public demands for improved government performance, pay for performance made its way back onto the political agenda following the terrorist attacks of September 11, 2001. This national crisis influenced American policymaking by unifying the country over national security issues and by opening a policy window of opportunity (Kingdon, 1995). Major civil service reforms including performance-based pay policies were suddenly able to pass through

Congress where previous attempts had failed because personnel reforms were tied to national security interests (Brook & King, 2007; Moynihan, 2005). The impact of September 11th on public management reform is best illustrated by the enactment of the Homeland Security Act of 2002. The Act combined 22 existing federal agencies and 170,000 federal employees to create the Department of Homeland Security, representing the largest and most complex reorganization of the federal government since the Department of Defense was established in 1947 (Brook & King, 2007). Passage of the Homeland Security Act in 2002 also "marked a dramatic shift toward greater public personnel flexibility" (Moynihan, 2005, p. 171), granting Homeland Security and the Department of Defense broad new powers to overhaul their personnel rules (exempt from Title 5) and develop their own performance-based pay systems.

Factors Influencing Pay for Performance Beliefs

Much research has focused on how pay impacts employee performance but few studies have examined how employees perceive the relationship between performance and rewards. Although actual and perceived links between pay and performance have equal impact on motivation (Heneman & Werner, 2005), relatively little is known about the determinants of pay for performance beliefs. Research and theory suggest that attitudes regarding pay and rewards, personnel decisions, performance appraisals, trustworthiness of decision-makers, and organizational culture are likely to influence employee beliefs in the connection between pay and performance. Each factor is briefly presented below along with its corresponding hypothesis.

Performance Evaluation

Accurate performance evaluation is the cornerstone of any pay for performance system (U.S. MSPB, 2006). To be most effective, an evaluation system should clearly delineate performance expectations, provide periodic feedback on how well employees are meeting expectations, and make meaningful distinctions between levels of performance (U.S. GAO, 1990a, 2005a; U.S. MSPB, 2006). Findings from previous studies illustrate the importance of employee perceptions regarding performance evaluation. Evidence shows that pay for performance perceptions are significantly affected by the perceived effectiveness (Perry & Pearce, 1983) and accuracy (Vest, Scott, & Tarnoff, 1995) of the performance appraisal process. Some scholars believe that "an accurate and equitable system for evaluating performance is essential to increase the perceived probability that good performance will lead to rewards" (Kellough & Lu, 1993, p. 49). It's much easier for employees to believe in the concept of pay for performance if they understand what is expected of them, if they feel their performance is evaluated accurately, and if they have sufficient opportunities to earn a high performance rating. Therefore, I hypothesize that a positive assessment of the performance evaluation system leads employees to believe that better performance results in more pay (*Hypothesis 1*).

Perceived Fairness

Derived from equity theory, procedural justice literature suggests that employee reactions to administrative decisions depend not only on the decision but also on the perceived fairness of the decision-making process (Folger & Greenberg, 1985; Greenberg, 1987a, 1987b, 1990, 1996). St-Onge (2000) found pay for performance perceptions were significantly related to perceptions of fairness regarding the

performance evaluation system and the reward allocation process. Perceptions of fairness also extend beyond performance appraisals into overall treatment on the job regarding personnel decisions in areas such as training, discipline, job assignments, awards, pay, and promotions. Thus, from a procedural justice perspective, employees who feel they aren't treated fairly on the job are less likely to believe the promise that better performance will lead to rewards.

Perceptions of fairness are also closely tied to employee attitudes towards supervisors. Because of the key role that immediate supervisors play in the pay for performance decision-making process, it's imperative that employees believe their supervisors are evaluating performance and allocating rewards fairly and accurately. Gabris and Ihrke (2000) found that employee perceptions of fairness in the performance appraisal system depend largely on how employees perceive their supervisory raters. Employees who perceive their evaluating supervisors as honest, objective, unbiased, and trustworthy are more likely to perceive the performance appraisal system as fair and accurate and more likely to accept a new compensation system as legitimate (Gabris & Ihrke, 2000). In light of this theoretical and empirical evidence, I hypothesize that perceptions of fair treatment regarding personnel decisions (*Hypothesis 2*) and perceived supervisory fairness in pay for performance decisions (*Hypothesis 3*) will positively influence the belief that better performance is linked to more pay.

Trust in Decision-Makers

Although trust plays a vital role in every reward system, it is especially crucial to the formation of a perceived link between pay and performance (Brudney & Condrey, 1993; Heneman & Werner, 2005; Kellough & Lu, 1993; Lawler, 1971, 1981, 1990;

Milkovich & Wigdor, 1991; Nigro, 1982; U.S. MSPB, 2006). Empirical studies support this view. In their review of pay for performance research, the National Research Council reported that performance-based pay systems worked well in environments with a climate "characterized by shared values and high levels of trust throughout the organization" (Milkovich & Wigdor, 1991, p. 161). Issues of trust are two-fold. First, employees must trust their immediate supervisors to rate their performance fairly and accurately (Fulk, Brief, & Barr, 1985). Next, employees must be able to trust higher level management to allocate sufficient funds to support performance-based pay increases and implement pay for performance policies fairly throughout the organization. Several studies found a significant positive relationship between pay for performance perceptions and employee trust in supervisors (Folger & Konovsky, 1989), trust in top management (Vest, Scott, Vest, & Markham, 2000), and trust in all decision-makers (St-Onge, 2000). Ultimately, high levels of trust are required if pay for performance plans are to gain employee acceptance and have the desired motivational effects on the workforce (Lawler, 1971). Based on the empirical evidence presented above, I hypothesize that employee trust in decision-makers (*Hypothesis 4*) will impact employee belief in the connection between better performance and greater pay.

Organizational Culture

Organizational culture and norms help shape employee beliefs, practices, and behavior in the workplace (Kaufman, 1960; Schein, 1992). Schein (2004) defines culture as "a pattern of shared basic assumptions" (p. 17) that represents "both a dynamic phenomenon that surrounds us at all times … and a set of structures, routines, rules, and norms that guide and constrain behavior" (p. 1). To gain acceptance among employees,

the pay for performance philosophy must be congruent with the organization's existing culture (Heneman & Werner, 2005). While it is possible to modify an organization's culture, major changes are extremely difficult to achieve because culture is "embedded in the fabric of the organization" (Ott & Baksh, 2005, p. 298). Upon examination of public employee attitudes towards a new merit pay system, Gabris and Ihrke (2000) discovered that positive employee perceptions depended more on the cultural context within the organization than on any particular element within the merit pay system.

In order to be motivated by a pay for performance system, employees must believe rewards will be given on the basis of merit or performance instead of being based on seniority, favoritism, or other nonperformance factors. Empirical results suggest that establishing an actual link between performance and rewards is a significant predictor of the perceived link between performance and rewards (St-Onge, 2000). Other important elements of organizational culture identified in the public sector include valuing employee opinions, treating people with respect, sharing information freely, and promoting a spirit of teamwork and cooperation (Brewer & Selden, 2000; DiIulio, 1994; Gore, 1993; Osborne & Gaebler, 1992; Rainey & Steinbauer, 1999). One study found organizational performance to be higher in federal agencies with cultures that empowered employees by valuing their input, taking their contributions seriously, and treating people with respect (Brewer & Selden, 2000). Due to the significance of having a supportive organizational culture and its impact on employee attitudes, I hypothesize that positive perceptions of the organizational culture will lead employees to believe that better performance results in more pay (*Hypothesis 5*).

To summarize, a variety of attitudes, perceptions, expectations, and characteristics of the work environment are considered determinants of the belief that pay and performance are connected. My study will test five hypotheses to see whether positive perceptions of (1) the performance evaluation system, (2) fair treatment regarding personnel decisions, (3) supervisory fairness in pay for performance decisions, (4) trust in decision-makers, and (5) the organizational culture influence the belief that better performance leads to more pay in the federal workplace. Has the federal government been able to convince employees that better performance leads to more pay? What factors are most influential in determining pay for performance beliefs? Can those factors be externally influenced by federal agencies to give pay for performance a chance for success? I turn to the Merit Principles Survey of 2005 for answers.

Data and Methods

The U.S. MSPB surveys federal employees periodically to determine their perspectives on the merit system. This study utilizes data from their Merit Principles Survey conducted in the summer and fall of 2005. This survey asked a wide variety of questions regarding employee perceptions of their jobs, work environment, supervisors, and agencies, with a special focus on pay and reward issues.

A random sample of 74,000 full-time permanent civilian employees was selected from the federal workforce across 24 executive branch agencies for the Merit Principles Survey of 2005. The sample was stratified by agency to ensure sufficient numbers of respondents from each federal agency to permit cross-agency comparisons. A total of 36,926 respondents completed surveys for a 50 percent response rate. For the purpose of this study, I restricted the dataset to white-collar employees within the GS pay system

and dropped all observations with missing values on my key variables which reduced the sample size to 21,826. All statistics were weighted using U.S. MSPB's sampling weights to make the data more representative of the overall white-collar federal workforce.

Dependent Variable

In the Merit Principles Survey of 2005, Question 20(b) asked federal employees if they agreed with the statement: "If I perform well, it is likely I will receive a cash award or pay increase." This question was measured on a 5-point Likert-type scale, with responses ranging from "Strongly Disagree" to "Strongly Agree." I created a dummy dependent variable by recoding responses as 1 for "Agree" plus "Strongly Agree," and 0 for others.

Independent Variables

With the exception of individual attributes, most of the independent variables included in this study are from questions measured on a 5-point Likert-type scale, with responses coded as: 1 for "Strongly Disagree," 2 for "Disagree," 3 for "Neither Agree nor Disagree," 4 for "Agree," and 5 for "Strongly Agree."

For the key independent variables, the survey asked several questions on similar topics, allowing for the development of more reliable measures of the concepts than would be possible using single questions. To develop these measures, I grouped the questions that best captured my theoretical concepts and then used principal components factor analysis to be sure all questions were measuring similar concepts. The Cronbach's alpha, which measures scale reliability from 0 to 1, is presented for each indexed variable. This study only includes variables with an alpha above .70 which is the

threshold suggested by Nunnally (1978). My factor analysis results are displayed in Table 1.

To measure employee attitudes about *performance evaluation* (alpha = .87), I created a 7-item index using questions about knowledge of performance expectations, fairness of performance standards, participation in setting standards and goals, opportunities to earn a high performance rating, and satisfaction with the appraisal system.

Two separate indexes were created to measure perceived fairness in the federal workplace. I created f*air treatment on the job* (alpha = .87) by combining employee perceptions of fair treatment regarding career advancement, awards, training, performance appraisals, discipline, job assignments, and pay. Five questions were used to construct s*upervisory fairness* (alpha = .85) which describes employee attitudes regarding the fairness and effectiveness of supervisory behavior when rating job applicants, selecting people for vacancies or promotions, determining pay increases and awards, establishing individual pay levels within broad pay bands, and taking adverse actions.

To determine the level of employee trust in decision-makers, the Merit Principles Survey of 2005 asked federal employees whether they trusted their immediate supervisors and upper level managers to take actions relevant to pay for performance. Based on theory and previous empirical research, trust was measured separately for each level of supervision. At the first level, t*rust in immediate supervisor* (alpha = .96) combines eight questions regarding the immediate supervisor's ability to fairly assess employee performance and contributions, support employees in pay and award

discussions with upper management, listen fairly to employee concerns, apply discipline fairly, clearly communicate conduct expectations, act with integrity, refrain from favoritism, and keep people informed. At the second level, t*rust in upper management* (alpha = .96) was created using seven questions about clear communication of organizational performance expectations, fair assessment of employee performance and contributions, listening fairly to employee concerns, applying discipline fairly, acting with integrity, refraining from favoritism, and keeping the organization informed.

Organizational culture (alpha = .88) combines seven questions on performance-based rewards and recognition, sharing information freely, valuing employee opinions, demonstrating a spirit of cooperation and teamwork, having a flexible workplace, treating people with respect, and ensuring employees are appropriately paid and rewarded throughout the organization.

Because a variety of individual attributes may affect pay for performance beliefs, I control for nine individual characteristics. Respondent's age and length of federal service are measured in years. The respondent’s annual salary was measured in dollars. Dummy variables were created to measure the remaining attributes. Gender was coded with males as 1 and females coded as 0. Respondent’s education level was measured as five dummy variables including no education, high school, associate’s degree, bachelor’s degree, and master’s degree, with the reference group consisting of doctorate level education. Five dummy variables were created to measure racial minorities including African American/Black, American Indian/Alaskan Native, Asian, Hispanic or Latino, and Native Hawaiian/Pacific Islander, with the reference group consisting of whites.

Supervisors at all levels were coded as 1 with nonsupervisors coded as 0. Union members were coded as 1 with non-union members coded as 0.

Last, I created a series of dichotomous variables to account for the agency in which the respondent works. Surveys were sent to 24 executive branch agencies and 23 of these were included in my study. My reference group consists of federal employees who work for U.S. OPM. A list of the agencies included in the study is provided in Table 2.

Logit Model

When the dependent variable is ordinal or nominal, assumptions required for ordinary least squares (OLS) regression do not hold. Two acceptable methods of analysis are ordered logistic regression (or ordered logit) for ordinal dependent variables and logistic regression (or logit) for nominal dependent variables. In this study, although the dependent variable was originally measured at the ordinal level using a 5-point Likert type scale, I transformed it into a dummy variable. This transformation allowed me to use logistic regression where independent variables are assumed to have linear impacts on the log odds. The odds are the probability of believing in the promise of pay for performance, divided by the probability of not believing. The effects on the probabilities are nonlinear and depend on the values of all the independent variables. Positive logit coefficients indicate that probabilities rose with increases in the independent variables after accounting for the effects of the other variables. Using the prchange function in STATA software (Long & Freese, 2001), I calculate the impact of 0 to 1 increases for dummy variables and one-unit increases (from one half-unit below the mean to one half-unit above the mean) for interval-level variables, holding all other variables constant at

their mean. Logit was chosen over ordered logit because the ordered logit model failed STATA's Brant test of the parallel regression assumption.

Empirical Findings

Descriptive Statistics

Table 1 presents descriptive statistics in the form of percentage response rates for individual questions. Since most independent variables were measured on a 5-point Likert-type scale, the average scores range from 1 (very negative) to 5 (very positive). Also included are weighted means, factor loadings, and Cronbach's alpha for indexed variables.

Expectations regarding pay for performance were fairly low among the white-collar GS federal employees in my study. Overall, 41.6 percent of respondents expected to receive a cash award or pay increase for good performance, while 34.7 percent disagreed and 23.6 percent remained neutral on the subject. Although slightly more people agreed than disagreed, there is clearly much room for improvement.

Attitudes regarding performance evaluation were moderate with a mean score of 3.5. Understanding the basis for the most recent performance rating received the highest agreement level at 82 percent. Around two-thirds of respondents agreed that standards used to appraise performance were appropriate and agreed that they understood what must be done to receive a high performance rating. Some 60.5 percent felt they have sufficient opportunities to earn a high performance rating. On the negative side, only 39.8 percent expressed satisfaction with their organization's performance appraisal system.

Perceptions of fair treatment on the job were moderate overall with a mean score of 3.2. Respondents generally felt they were treated fairly to some extent regarding all types of personnel decisions. The greatest extent of perceived fairness was in the area of performance appraisals (56.2 percent), while the greatest degree of unfairness was reported in the area of career advancement (37 percent). Two areas crucial to pay for performance – awards and pay – did reveal fair treatment but at lower levels and only among a minority of respondents. Only 39.1 percent felt they were treated fairly regarding awards with 31.3 percent disagreeing, and less than half (47.3 percent) reported fair treatment regarding pay.

Employee attitudes about supervisory fairness were moderate with a total mean score of 3.4 which represents a slight improvement over fair treatment in general. When asked to rate the extent to which supervisors exercised certain actions in a fair and effective manner, employee perceptions were highly favorable. A majority of respondents perceived supervisory fairness to a moderate or great extent when rating job applicants (71.4 percent), hiring or promoting people (67.4 percent), and determining pay increases and awards (55.7 percent). Slightly fewer respondents were convinced their supervisors would establish pay within broad bands (41.1 percent) and handle adverse actions (43.7 percent) fairly and effectively.

Perceptions of trust in decision-makers revealed some of the highest levels of agreement with a total mean score of 3.7 for trust in immediate supervisors and 3.4 for trust in upper management. Employees clearly expressed greater trust in their immediate supervisors with a majority between 58.7 and 71.7 percent agreeing in all categories, whereas slightly less trust was placed in upper management with 42.2 to 58.5 percent

agreement levels. One interesting but rather contradictory finding was that a majority of respondents trusted their immediate supervisors (71.7 percent) and upper managers (58.5 percent) the most to act with integrity, while simultaneously trusting them the least to refrain from favoritism.

Perceptions of organizational culture were mostly positive with a total mean score of 3.5. Being treated with respect received the highest level of agreement at 76.7 percent. A majority of respondents also agreed that their work unit responds flexibly to changing conditions (67.6 percent), a spirit of cooperation and teamwork exists (65 percent), information is shared freely (60.1 percent), and their opinions seem to count (54.7 percent). Unfortunately, the lowest scores were in areas instrumental to pay for performance. Less than half (45 percent) agreed that recognition and rewards are based on performance and only 37.7 percent felt their organization ensured that employees are appropriately paid and rewarded. These two areas alone serve as major obstacles to pay for performance reforms.

Table 1. Descriptive Statistics for Pay for Performance Credibility

DEPENDENT VARIABLE:	Disagree	Neither	Agree
Belief in Pay for Performance:			
If I perform well, it is likely I will receive a cash award or pay increase.	34.7	23.6	41.6

INDEPENDENT VARIABLES:	Disagree	Neither	Agree
Performance Evaluation (weighted mean = 3.5):			
I understand the basis for my most recent performance rating.	8.0	10.0	82.0
The standards used to appraise my performance are appropriate.	16.6	17.5	65.9
I participate in setting standards and goals used to evaluate my job performance.	30.9	20.2	48.9
I understand what I must do to receive a high performance rating.	15.6	15.4	69.0
I have sufficient opportunities to earn a high performance rating.	19.5	20.0	60.5
I know how my performance rating compares to others with similar jobs.	42.2	25.4	32.4
I am satisfied with my organization's performance appraisal system.	35.1	25.1	39.8

FACTOR ANALYSIS: Factor loadings are between .55 and .84 and Cronbach's alpha = .87.

Table 1 (continued)

INDEPENDENT VARIABLES:		Little or no extent	Some extent	Considerable or very great extent
Fair Treatment on the Job (weighted mean = 3.2):				
In the past 2 years, to what extent do you believe you have been treated fairly regarding the following?				
a.	Career advancement	39.1	23.9	37.0
b.	Awards	31.3	29.7	39.1
c.	Training	28.4	31.0	40.6
d.	Performance appraisals	17.8	26.0	56.2
e.	Job assignments	21.5	26.8	51.7
f.	Discipline	24.4	21.4	54.2
g.	Pay	22.5	30.3	47.3

FACTOR ANALYSIS: Factor loadings are between .68 and .79 and Cronbach's alpha = .87.

Table 1 (continued)

INDEPENDENT VARIABLES:	Don't Know or no extent	Minimal extent	Moderate or great extent
Supervisory Fairness (weighted mean = 3.4):			
To what extent do you think your supervisor will exercise each of the following authorities in a fair and effective manner?			
Supervisor rates qualifications of job applicants fairly and effectively.	14.7	14.0	71.4
Supervisor selects people for vacancies or promotions fairly and effectively.	16.3	16.3	67.4
Supervisor determines pay increases and awards fairly and effectively.	23.2	21.0	55.7
Supervisor sets employees' pay within broad pay bands fairly and effectively.	41.6	17.3	41.1
Supervisor handles adverse actions fairly and effectively.	35.4	20.9	43.7

FACTOR ANALYSIS: Factor loadings are between .73 and .85 and Cronbach's alpha = .85.

Table 1 (continued)

INDEPENDENT VARIABLES:		Disagree	Neither	Agree
Trust in Immediate Supervisor (weighted mean = 3.7):				
I trust my supervisor to do the following:				
a.	Fairly assess my performance and contributions.	13.2	15.4	71.4
b.	Support me in pay and award discussions with upper management.	19.2	22.1	58.7
c.	Listen fairly to my concerns.	14.1	14.8	71.1
d.	Apply discipline fairly and only when justified.	16.3	19.7	64.1
e.	Clearly communicate conduct expectations.	15.8	17.5	66.7
f.	Act with integrity.	11.6	16.7	71.7
g.	Refrain from favoritism.	22.7	18.6	58.7
h.	Keep me informed.	21.2	18.0	60.8

FACTOR ANALYSIS: Factor loadings are between .87 and .92 and Cronbach's alpha = .96.

Table 1 (continued)

INDEPENDENT VARIABLES:		Disagree	Neither	Agree
Trust in Upper Management (weighted mean = 3.4):				
I trust managers above my immediate supervisor to:				
a.	Clearly communicate organizational performance expectations.	21.8	22.5	55.7
b.	Fairly assess my performance and contributions.	23.6	26.6	49.8
c.	Listen fairly to my concerns.	23.1	25.7	51.2
d.	Apply discipline fairly and only when justified.	21.0	29.2	49.8
e.	Act with integrity.	17.4	24.1	58.5
f.	Refrain from favoritism.	30.7	27.1	42.2
g.	Keep the organization informed.	24.1	25.0	50.9

FACTOR ANALYSIS: Factor loadings are between .88 and .92 and Cronbach's alpha = .96.

Table 1 (continued)

INDEPENDENT VARIABLES:	Disagree	Neither	Agree
Organizational Culture (weighted mean = 3.5):			
Recognition and rewards are based on performance in my work unit.	29.9	25.1	45.0
My organization takes steps to ensure that employees are appropriately paid and rewarded.	34.8	27.5	37.7
Information is shared freely in my work unit.	22.3	17.6	60.1
At the place I work, my opinions seem to count.	21.3	24.0	54.7
A spirit of cooperation and teamwork exists in my work unit.	19.2	15.8	65.0
My work unit responds flexibly to changing conditions.	14.0	18.5	67.6
I am treated with respect in my work unit.	11.0	12.3	76.7

FACTOR ANALYSIS: Factor loadings are between .66 and .83 and Cronbach's alpha = .88.

Note. Agreement response categories were combined as follows: Disagree = Disagree and Strongly Disagree; Neither = Neither Agree Nor Disagree; and Agree = Agree and Strongly Agree. Descriptive statistics were calculated using the U.S. MSPB sampling weight variable and figures are shown in percentages. Reduced sample includes General Schedule employees only.

Logit Results

Table 2 presents the multivariate logit results in the form of logit coefficients, z-statistics, and odds-ratios. The percent change column translates logit coefficients into expected percentage point impacts using the prchange function in STATA software (Long & Freese, 2001). Coefficients for most key factors expected to influence pay for performance beliefs had the predicted sign and the majority were statistically significant at the .001 level.

Employee attitudes regarding the performance evaluation system, perceived fairness, and organizational culture proved to be highly influential in leading employees to believe that better performance results in more pay. Logit coefficients for these key attitudinal variables were positive and statistically significant at .001, holding all other variables constant. Employees who expressed positive perceptions of their performance evaluation system were 9.0 percentage points more likely to believe in pay for performance. Respondents who felt they were treated fairly regarding personnel decisions were 16.2 percentage points more likely to believe that better performance leads to more pay. Employees with positive perceptions of supervisory fairness regarding pay for performance decisions were 4.4 percentage points more likely to believe in pay for performance. Employees who portrayed their organizational culture in a positive light were 13.7 percentage points more likely to believe that better performance leads to more pay. Overall, positive employee attitudes in these areas significantly increased the likelihood of pay for performance belief among federal workers.

The impact of trust in decision-makers on pay for performance belief was the only hypothesis not supported by the data. Although previous research found a significant

positive relationship between pay for performance perceptions and employee trust in supervisors (Folger & Konovsky, 1989), trust in top management (Vest et. al, 2000), and trust in all decision-makers (St-Onge, 2000), this relationship did not hold up in my multivariate logit model. The logit coefficient for trust in immediate supervisors was negative and the coefficient for trust in upper managers was positive. After controlling for other variables, trust at both levels of decision-making proved to be extremely weak with logit coefficients lacking any statistical significance. Despite these disappointing statistical results, the importance of gaining employee trust to enable pay for performance strategies to succeed warrants further study of this concept in the future.

Although I had no expectations regarding demographic variables, a significant relationship was found between pay for performance belief and age, education, salary, and race. Older federal workers were significantly more likely to believe that better performance leads to more pay ($p < .05$). Employees with high school diplomas (or equivalent) and bachelor's degrees were 8.8 and 11.1 percentage points more likely than comparable employees with doctorate degrees to believe in pay for performance respectively, while other levels of education lacked a significant relationship with pay for performance belief. Salary was the strongest predictor of pay for performance belief: employees with higher salaries were significantly more likely to believe better performance results in greater pay ($p < .001$). Whites were 9.9 percentage points more likely than comparable Asians to believe in pay for performance. However, there was no statistically significant difference between whites and other minorities in this study. None of the coefficients on the remaining variables (male, federal service, supervisor, union) were statistically significant.

A great deal of variation occurred among agency variables. Among the 23 agencies included in this study, the Merit Principles Survey of 2005 revealed 12 negative and 11 positive agency logit coefficients, with 14 achieving statistical significance. Employees working for Agriculture, General Services Administration (GSA), Homeland Security (DHS), Interior, Justice, State Department, Transportation (DOT), and Veterans Affairs (VA) were all significantly less likely than U.S. OPM employees to believe in the promise of pay for performance. These results are especially damaging to the Department of Homeland Security where a pay for performance system already exists. Results indicate that Homeland Security employees are 15.2 percentage points less likely than comparable workers at U.S. OPM to believe better performance leads to more pay. On a more positive note, employees working for Commerce, Air Force, Housing and Urban Development (HUD), Labor, Social Security Administration (SSA), and Treasury were all significantly more likely than U.S. OPM employees to believe that better performance results in more pay. The fact that three out of four logit coefficients were positive (with one statistically significant) suggests that the Defense Department's new pay for performance program enjoyed greater success in 2005 than the program at Homeland Security. In particular, Air Force employees were 16.5 percentage points more likely to believe in pay for performance than comparable employees at U.S. OPM. In view of the overall results, it is clear that the agency of employment can have a significant impact on whether employees believe in the promise of pay for performance.

Table 2. Logit Model for Determinants of Pay for Performance Belief

	Coefficient	z Statistic	Odds Ratio	Percent Change
EMPLOYEE ATTITUDES:				
Performance Evaluation	0.367***	5.15	1.443	9.0
Fair Treatment on the Job	0.666***	10.81	1.946	16.2
Supervisory Fairness	0.177***	3.79	1.194	4.4
Trust Immediate Supervisor	-0.007	0.10	0.993	-0.2
Trust Upper Managers	0.084	1.54	1.088	2.1
Organizational Culture	0.563***	6.70	1.756	13.7
DEMOGRAPHICS:				
Age	0.011*	2.06	1.011	0.3
Male	-0.107	1.28	0.898	-2.6
Federal Service	-0.001	0.20	0.999	-0.0
Education:				
No education	-0.158	0.63	0.854	-3.8
High School, GED, or equivalent	0.354*	1.93	1.425	8.8
Associate's degree	0.199	1.02	1.220	4.9
Bachelor's degree	0.453**	2.82	1.572	11.1
Master's degree	0.322	1.90	1.380	8.0
Salary	0.005***	3.21	1.005	0.1
Race:				
African American / Black	0.166	1.41	1.181	4.1
American Indian / Alaskan Native	-0.352	1.89	0.703	-8.4
Asian	-0.418*	2.23	0.658	-9.9
Hispanic or Latino	-0.094	0.57	0.911	-2.3
Native Hawaiian / Pacific Islander	0.644	1.68	1.905	16.0
Supervisor	0.080	0.93	1.083	2.0
Union Member	-0.060	0.56	0.942	-1.5
AGENCY OF EMPLOYMENT:				
Agriculture	-0.597***	4.14	0.550	-13.9
Commerce	0.862***	5.98	2.369	21.2
Defense:				
Air Force	0.667**	3.15	1.949	16.5
Army	0.034	0.18	1.035	0.8
Navy	-0.171	0.83	0.843	-4.1
Other Defense	0.101	0.75	1.107	2.5
Education Department	0.175	1.14	1.191	4.3
Energy	-0.088	0.45	0.916	-2.1
Environmental Protection Agency	0.046	0.24	1.047	1.1
Federal Deposit Insurance Corporation	-0.163	0.79	0.850	-4.0
General Services Administration	-0.544***	3.20	0.580	-12.6
Health & Human Services	-0.088	0.58	0.915	-2.2
Homeland Security	-0.658***	4.17	0.518	-15.2
Housing & Urban Development	1.062***	4.68	2.893	25.6
Interior	-0.689***	4.53	0.502	-15.8
Justice	-0.692***	4.67	0.500	-15.9

Table 2 (continued)

	Coefficient	z Statistic	Odds Ratio	Percent Change
AGENCY OF EMPLOYMENT:				
Labor	0.504**	2.80	1.656	12.5
National Aeronautics & Space Administration	0.338	1.84	1.403	8.4
Social Security Administration	0.707***	4.11	2.029	17.5
State Department	-1.341***	4.29	0.262	-26.7
Transportation	-0.470*	2.31	0.625	-11.0
Treasury	0.644***	3.75	1.904	16.0
Veterans Affairs	-0.977***	4.94	0.376	-21.3
Observations	21826			
McFadden's Pseudo R^2	0.2558			

Note. Logistic regression was performed using the U.S. MSPB sampling weight variable. Reduced sample includes General Schedule employees only.
* Significant at .05; ** Significant at .01; *** Significant at .001

Model Critique

Despite careful specification, the model has several weaknesses stemming from the type of data available for analysis. First, this model doesn't include any objective measures of performance (e.g., performance ratings or date of last promotion) which would allow me to examine whether pay for performance beliefs differ between poor and top performers. Second, there isn't any data on whether poor performers are punished through downgrades, withholding of bonus money, or dismissals, to determine the impact of negative reinforcement. Third, the model lacks important budgetary information concerning the size and adequacy of funds set aside for performance awards in each agency. Fourth, this model examines perceptions at a fixed point in time which cannot completely address causal relationships among concepts. Longitudinal design of future studies could help clarify these causal relationships more fully. Fifth, survey data is subject to bias and response error, which makes the inclusion of objective data all the more important for validation purposes. Adding objective data in the future could significantly improve my ability to identify all of the factors likely to influence pay for performance beliefs.

Another limitation of this study involves missing data on items that could affect pay for performance beliefs especially after implementation of a new performance-based pay system. When pay for performance programs fail to meet employee expectations, initial belief in pay for performance can dissolve rapidly. Employee support for performance-based pay is likely to decrease if there is a big enough difference between the amount of rewards actually received and the amount expected. Satisfaction with performance ratings, pay increases, and pay levels – before and after implementation –

can help promote and maintain pay for performance beliefs at higher levels. Future studies should include data regarding the size and impact of pay for performance outcomes as well as satisfaction with those outcomes.

Conclusion

This study examined five factors that may influence pay for performance beliefs among federal workers. Multivariate logit analyses found four of those factors – perceptions of the performance evaluation system, fair treatment regarding personnel decisions, supervisory fairness in pay for performance decisions, and organizational culture – did manifest statistically significant relationships with pay for performance beliefs. In short, federal employees are significantly more likely to believe in the promise of pay for performance if they consider their performance evaluation system to be fair and accurate, feel they are treated fairly on all personnel matters, believe their immediate supervisor makes pay for performance decisions fairly, and have positive perceptions of their organizational culture.

These results stress the importance of employee perceptions which should not be overlooked or underestimated in their power to influence pay for performance beliefs and ultimately motivate job performance. Federal agencies need to recognize that government employees are strongly motivated by perceptions of fairness. Consistent with organizational justice research, employee attitudes are clearly affected by the perceived fairness of pay for performance decisions as well as the decision-making process surrounding pay for performance. While designing fair and accurate systems to evaluate and reward good performance is essential, it is equally important to remember that supervisors – not systems – are responsible for evaluating performance and

allocating rewards. The significance of perceived supervisory fairness regarding pay for performance decisions adds a new dimension to this element that was lacking in previous research. Since performance-based pay systems rely so heavily on supervisory discretion over subjective performance appraisals to determine an individual's salary, this simultaneously increases the chance for bias and favoritism to occur making perceived supervisory fairness more important than ever.

This study also highlights the difficult role of management in gaining employee acceptance of pay for performance. Managers must resist the temptation to make unrealistic promises to employees in the hopes of motivating better performance. While such promises may have the desired motivational effects in the short term, broken promises are bound to have a serious negative impact on employee attitudes and performance that will outlast any short term benefits gained. In short, managers should be realistic in their efforts to win over employees and not promise more than they can deliver.

Last, the significance of organizational culture cannot be overstated. Agencies cannot expect employees to believe in pay for performance if the organizational culture does not fully support that philosophy. For pay for performance strategies to be effective, it's imperative that the actual and perceived relationship between pay and performance be in alignment (Heneman & Werner, 2005). Although progress has been made in strategic human capital management since its designation as a high-risk area by U.S. GAO in

2001,[2] federal agencies continue to struggle with the challenge of establishing performance-based, results-oriented organizational cultures (U.S. GAO, 2005b).

The good news is that all of these elements can be influenced externally by the organization. Through careful design, implementation, and management of pay for performance systems, agencies can increase the likelihood of employees believing in pay for performance promises by strengthening the perceived and actual link between pay and performance; increasing perceived fairness of performance evaluations, personnel decisions, and pay for performance decisions and procedures; and creating an organizational culture that demonstrates performance really matters. Armed with this knowledge, public managers have a better idea where to focus their attention in order to generate an atmosphere where pay for performance can thrive.

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[2] See U.S. GAO's "High-Risk Series: An Update" dated January 2001 under Report No. GAO-01-263.

CHAPTER 3

PAY FOR PERFORMANCE READINESS

Public organizations are constantly changing in an effort to improve performance (Ingraham, 2003; Osborne & Gaebler, 1992). While the government succeeds at implementing organizational change more often than people think (Rainey, 2009), sometimes they fail to achieve the desired results. After 30 years of pay for performance experimentation, scholars agree that the federal government has failed to deliver what was promised (Ingraham, 1993; Kellough & Lu, 1993; Lawler, 2000a; Perry, 1986, 2003; Perry, Petrakis, & Miller, 1989; Rainey & Kellough, 2000). In my investigation of why government pay for performance efforts failed, I chose to follow a different path than those who came before me (Milkovich & Wigdor, 1991; Pearce & Perry, 1983; Perry, 1986). Instead of focusing on the content of change initiatives (i.e., pay for performance) as the source of the problem, I focus on the preconditions required for success. The concept of readiness for change aptly describes those prerequisites. Therefore, in keeping with other scholars, I propose that a lack of readiness for change is one major reason why organizational change efforts fail (Armenakis, Harris, & Mossholder, 1993).

What does readiness for change mean? A single definition of readiness has yet to be adopted (Holt, Armenakis, Harris, & Feild, 2007). According to Armenakis, Harris, and Mossholder (1993), a state of readiness describes employee beliefs, attitudes, and intentions regarding organizational change. Specifically, readiness is the cognitive precursor to employee behaviors that either support or resist organizational change efforts (Armenakis et al., 1993). Another definition of readiness encompasses employee beliefs

about the appropriateness of, support for, and value of the proposed change (Armenakis, Harris, & Feild, 1999). For the purpose of this study and consistent with previous research, readiness is defined as employee beliefs and attitudes that support organizational change in the form of pay for performance.

This definition of readiness highlights a key issue involved in planning and preparing for organizational change – namely, the need to create a solid base of support for change (Berman, 2004, 2006). "Performance improvement is an intervention, a change in existing rules, relationships, or expectations. Managers should not be surprised to find that while some people and organizations welcome the possibility of improvement, others are reluctant to embrace change" (Berman, 2006, p. 43). In light of this realization, Berman (2006, p. 44) suggests a "critical mass of people" supporting organizational change is necessary to generate enough forward momentum to ensure successful implementation from start to finish. Without a committed group of followers at all levels of the organization, proposed changes may be "destined to die for lack of support" (Berman, 2004, p. 169).

Readiness is cited as one of the most important factors affecting employee support for change initiatives (Armenakis et al., 1999; Armenakis et al., 1993). Focusing on readiness prior to implementation can increase the likelihood of successful implementation and minimize employee resistance to the change event (Armenakis et al., 1993). Implementation of organizational changes may not lead to desired outcomes simply because employees are not yet ready for change (Jones, Jimmieson, & Griffiths, 2005). Scholars recommend that organizations achieve a state of readiness before attempting to implement change initiatives (Armenakis & Harris, 2002; Armenakis et al.,

1993). Toward that end, policymakers and practitioners need a diagnostic tool that allows them to gauge readiness for change prior to policy implementation (Bouckenooghe, Devos, & Van den Broeck, 2009).

Although researchers from other disciplines recognize the crucial role of readiness in successful change implementation (Armenakis & Harris, 2002; Armenakis et al., 1999; Armenakis et al., 1993; Bouckenooghe et al., 2009; Cunningham et al., 2002; Eby, Adams, Russell, & Gaby, 2000; Fox, Ellison, & Keith, 1988; Holt, Armenakis, Feild, & Harris, 2007; Holt, Armenakis, Harris, et al., 2007; Jones et al., 2005), the concept has been overlooked by public administration scholars and policymakers. Therefore, the main purpose of this study is to fill a gap in the public administration literature by introducing readiness as an important pre-implementation concept that greatly impacts the success or failure of organizational change. First, I review the literature for factors that influence successful organizational change and the creation of readiness for change. I proceed with a review of the conditions required for pay for performance success. Taken together, I use criteria for success identified by the literature to develop a scorecard that measures pay for performance readiness in the federal government. Next, I construct a scoring system which allows me to directly compare agency readiness to implement pay for performance. Using data from the Merit Principles Survey of 2005, I analyze the pay for performance perceptions of federal employees to detect attitudinal variations by subject matter and agency of employment. Then, I assess the overall readiness of the federal government and rank each federal agency in terms of their readiness to implement pay for performance. Finally, I discuss the implications of my findings for implementing pay for performance successfully on a governmentwide basis.

Factors Influencing Successful Organizational Change

In an era when change has become an integral part of daily government operations, it's paramount that public agencies are able to implement change initiatives successfully. Many factors contribute to whether organizational changes succeed or fail. Holt, Armenakis, Harris, and Feild (2007) state that organizations must progress through three stages for successful implementation of organizational change: readiness, adoption, and institutionalization (cf. Lewin, 1947). Readiness is the first stage, which "occurs when the environment, structure, and organizational members' attitudes are such that employees are receptive to a forthcoming change" (Holt, Armenakis, Harris, et al., 2007, p. 290). Adoption is the second stage, whereby employees temporarily adjust their attitudes and behaviors in compliance with the change initiative. Institutionalization is the third and final stage, which occurs when the change becomes a permanent fixture within the organization. Although many other scholars have developed multi-phase models for implementing organizational change (e.g., Armenakis et al., 1999; Galpin, 1996; Judson, 1991; Kotter, 1995), my research focuses on the readiness phase of this particular model.

A vast body of work in organizational theory contains many different perspectives, models, and issues related to organizational change (Rainey, 2009). In reviews of the organizational change literature (Armenakis & Bedeian, 1999; Fernandez & Rainey, 2006), scholars identified several factors that contribute to the successful implementation of organizational change: adequate resources to support the change process; the crucial role of managers in making organizational change happen; internal and external support for and commitment to change; effective communication of the

change; widespread participation in the change process; employee trust in management at all levels; and a supportive organizational culture and climate. Many of the same strategies for implementing organizational change are applicable to the creation of readiness for change.

Creating a state of readiness for change has been the subject of several studies. One study of employee perceptions of organizational readiness for change found that individual, work unit, and job attitudes, along with contextual factors such as flexible policies and procedures, adequate resources, and trust in management, were all important antecedents of readiness for change (Eby et al., 2000). Another study found that supportive work relationships, effective communication, adequate training, financial incentives, and employee participation in change efforts all contribute to the formulation of positive attitudes towards change (Vakola & Nikolaou, 2005). Overall, Holt, Armenakis, Harris, and Feild (2007) suggest that the content, process, and context of organizational change, along with characteristics of the individuals involved in the change, collectively influence readiness for change.

Pay for Performance Criteria for Success

Ensuring that favorable conditions exist before starting policy implementation is vital to the success of pay for performance programs (Heneman & Werner, 2005; Ingraham, 1993). Before implementing pay for performance, U.S. MSPB (2006) recommends that agencies conduct a self-assessment to determine whether there is a sufficient foundation to support pay for performance. A strong pay for performance foundation should include the following elements:

- adequate funding to produce sizeable rewards;

- sufficient managerial authority to reward high performance;
- employees who are highly motivated by money;
- supportive beliefs and expectations;
- a fair and accurate performance evaluation system;
- fair treatment in all personnel matters;
- perceived fairness in performance evaluation, reward allocation, and supervisory decisions;
- high quality supervision with accountability for fair treatment and effective handling of poor performers;
- a high degree of trust between supervisors and employees; and
- an organizational culture that supports pay for performance.

While this is by no means an exhaustive list of pay for performance requirements, it is a good place to start.

Adequate Funding

When considering pay for performance, the decision-making process should begin with funding. Organizations must have sufficient resources to give pay for performance a chance to succeed (Eisenberg & Ingraham, 1993; Milkovich & Wigdor, 1991; Underhill & Oman, 2007; U.S. GAO, 1990a; U.S. MSPB, 2006). One government review of public sector pay for performance systems revealed that "adequate funding is critical to meeting the system's objectives and for achieving credibility among covered employees" (U.S. GAO, 1990a, p. 4). Organizations should have "enough money to provide the necessary incentives on a predictable basis" (Eisenberg & Ingraham, 1993, p. 127).

Funding is especially important when creating effective performance awards because size really does matter. Pay increases will only motivate employees if the amount is large enough to make a difference (Lawler, 1981b). Government experts agree that the amount of bonus pay being offered as an incentive must be substantial enough to make improved performance worth the extra effort (National Academy of Public Administration [NAPA], 2004a; U.S. GAO, 1990a; U.S. MSPB, 2006). Lawler (1990) recommends the size of monetary awards be set at a minimum rate of 5 percent of cash compensation "for it to make any difference at all" (p. 203). However, the government typically establishes budgetary limits far below that. Under the previous federal merit pay system, the maximum performance award was limited to 2 percent of the employee's base salary and an agency's total payout for performance awards was limited to a maximum of 1.5 percent of its aggregate PMRS salaries (U.S. GAO, 1990a). Under these circumstances, it's not surprising that a review of PMRS found widespread agreement among employees that "awards were too small to act as motivators" (U.S. GAO, 1990a, p. 11).

Since government agencies don't control their financial resources, it is imperative that they obtain and maintain legislative support to ensure adequate funding of payouts on a consistent basis throughout pay for performance implementation (Lawler, 1981b). Congressional support for sizeable and continuous funding is difficult enough to obtain in the best of times, let alone during periods of economic crisis (Ingraham, 1993; Kellough & Lu, 1993). History has shown that politicians who favor the adoption of pay for performance often fail to support the budgetary requirements to make it work (Lovrich, 1987; Mani, 2002; Ryan, 2003). Consequently, pay for performance systems in the

United States have been “chronically underfunded by legislative bodies” at every level of government (Kellough & Nigro, 2002, p. 157), making insufficient funding one of the leading causes of failure for government pay for performance programs (Condrey & Kellough, 1993; Ingraham, 1993; Kellough & Lu, 1993; Kellough & Selden, 1997; Milkovich & Wigdor, 1991; Perry, 1986, 1988-89, 1991, 2003; Rainey & Kellough, 2000; U.S. GAO, 1990a).

Sufficient Managerial Authority

Along with adequate funding, managers must have sufficient authority to reward high performers (Ingraham, 1993; U.S. MSPB, 2006, 2007). A pay for performance system “requires that agencies allow supervisors to exercise some degree of discretion and judgment in evaluating and rewarding employee performance” (U.S. MSPB, 2006, p. xiii). Although federal managers have the legal authority to reward high performers with cash awards and pay increases, the current civil service system under Title 5 is criticized for constraining managerial discretion and limiting flexibility (Ingraham, 1993; U.S. OPM, 1998). Evidence from the private sector suggests that favorable conditions for effective pay for performance programs must include giving managers enough authority and discretionary power to adequately recognize and reward the best performers and demote or fire the worst performers (Ingraham, 1993). In short, agencies trying to motivate employees through the use of recognition and rewards “need to ensure that resources are available to make the recognition valuable to the employee and that supervisors have the authority to make full use of those resources” (U.S. MSPB, 2007, p. 66).

Motivated by Money

When considering pay for performance, a critical starting point is to determine what type of rewards employees' value most. Money is considered an ideal incentive because of its universal appeal – everyone values it to some degree (Locke, 2001). The success of pay for performance depends largely on whether monetary rewards (extrinsic) are highly valued by employees over other types of rewards (intrinsic), such as personal pride or satisfaction in work (Pearce & Perry, 1983). The motivational impact of pay for performance depends on how much an employee values the type of reward as well as the size of the reward being offered (Lawler, 2000a). This means that pay for performance isn't a good motivational fit for every employee, because "not everyone values financial rewards enough to make them a significant motivator of performance" (Lawler, 2000b, p. 153).

One problem with the current pay for performance trend in government is that it overemphasizes extrinsic incentives (Rainey, 2003) and underestimates the importance of intrinsic public service motivators (Perry & Wise, 1990). Pay for performance works best when employees value money the most. This presents a problem because public sector employees appear to be more intrinsically motivated than private sector employees (Boyne, 2002; Crewson, 1997; Karl & Sutton, 1998; Kilpatrick et al., 1964; Perry & Porter, 1982; Rainey, 1982; Wittmer, 1991; Wright, 2001). Instead of money being the most important motivating factor, individuals who place greater value on intrinsic rewards are more motivated by work that is interesting, challenging, useful to society, and self-directive, as well as work providing opportunities for service, decision making,

personal growth, creativity, and collegial recognition (Herzberg et al., 1959; Kaufman & Fetters, 1980; Nord et al., 1988; Pinder, 1998; Walker et al., 1982).

In Paul Light's (1999) profile of "The New Public Service," he found college graduates were searching for interesting and challenging work more than large paychecks. In his words: "Young Americans are not saying 'Show me the money' so much as 'Show me the work' " (Light, 1999, p. 3). Although the appeal of a steady government paycheck is bound to increase during periods of high unemployment and extreme job instability, the motivational power of pay for performance and its chances for success could be severely diminished if public employees prefer intrinsic over extrinsic rewards. A recent study found that intrinsically motivated federal employees were significantly less likely to agree that their performance appraisal system motivated better performance, even after controlling for a variety of demographic and organizational factors (Oh & Lewis, 2009).

Pay for Performance Beliefs and Expectations

Employee beliefs and perceptions are critical to the success of pay for performance (Perry, Engbers, & Jun, 2009). The most important motivational element required under pay for performance is the employees' belief that improved performance leads to more pay. Without this fundamental belief, pay for performance cannot motivate behavior. However, merely adopting a performance-based pay plan does not ensure that employees will believe pay and performance are connected. Heneman and Werner (2005) argue that the perceived and actual relationships between pay and performance are equally important and must be aligned to make pay for performance work effectively.

While an effective pay for performance system can potentially create "a highly motivated workforce in which employees see a close relationship between how well they perform and how much they are paid" (Lawler, 2000b, p. 149), an ineffective system – poorly planned, designed, implemented, and funded – can produce a wide range of unintended negative consequences. Researchers have found that poor perceptions of performance-based pay systems were associated with low levels of organizational trust (Condrey & Brudney, 1992), mistrust of performance rating systems (Kellough & Selden, 1997), and a lack of leadership credibility (Gabris & Ihrke, 2000). Employee perceptions matter because "negative perceptions – even when unwarranted – can seriously undermine morale, organizational performance, and the credibility and effectiveness of even well-intentioned, well-conceived management initiatives" (U.S. MSPB, 2008a, p. 52). Moreover, scholars recognize the importance of employee perceptions because the ultimate success of pay for performance reforms depends largely on the employees' level of confidence in it and their willingness to support it (Kellough & Nigro, 2002).

Performance Evaluation System

To get the best results with pay for performance, all key elements of performance must be measured fairly and accurately (Condrey & Kellough, 1993; Kellough & Lu, 1993; Pearce & Perry, 1983; U.S. MSPB, 2006). The most effective performance evaluation systems clearly delineate performance expectations, provide periodic feedback on how well employees are meeting expectations, and make meaningful distinctions between levels of performance (U.S. GAO, 1990a, 2005a; U.S. MSPB, 2006). According to Lawler (2000b, p. 151), "performance measures and standards need to be sufficiently objective and credible so that employees feel they are being measured fairly." Most

successful pay for performance programs have occurred in work contexts where performance was measured objectively (Rynes et al., 2005). Unfortunately, government work is more difficult to measure objectively than private sector work because it tends to be more knowledge-based and service-oriented, and it lacks the bottom line of a profit margin (Lane, 1994; Wisdom & Patzig, 1987).

In the absence of objective measures, government agencies rely on managerial judgment in the form of subjective performance appraisals which employees often perceive as invalid and unfair (Lawler, 1981a). Lack of objective performance data makes reliance on managerial discretion problematic. While pay for performance requires that managers have the authority to influence an individual's salary, increasing managerial discretion over subjective performance appraisals simultaneously increases the chance for favoritism, bias, and political intrusion (Kellough & Lu, 1993). Performance-based personnel systems must find the right balance between granting managers discretion in how they do their jobs and protecting employees against abuse (Kettl, Ingraham, Sanders, & Horner, 1996).

The federal government's previous experience with merit pay identifies inadequate financial rewards and invalid performance appraisals as the two biggest obstacles to successful pay for performance implementation (Kellough & Lu, 1993; Perry, 2003). While inadequate resources and invalid performance appraisals present problems by themselves, they become more problematic when combined under a pay for performance system due to their negative impact on the link between pay and performance. Without enough money to reward all deserving employees, the number of employees who can receive a high performance rating (and corresponding bonus pay) is

limited under a forced distribution of ratings regardless of the employees' actual performance (Eisenberg & Ingraham, 1993; Kellough & Lu, 1993; U.S. MSPB, 2006), thus breaking the connection between pay and performance. Under these combined circumstances of inadequate reward money and compulsion to use a forced distribution of ratings (i.e., quota system), some deserving top performers do not receive high ratings and large rewards because the supervisor is not allowed to issue enough outstanding ratings with substantial bonus money attached.

Perceived Fairness

The success of any pay for performance system depends not only on whether the system is designed fairly but equally on whether employees view the system as fair (Eskew & Heneman, 1996; Lawler, 1981b, 2000b; Pearce & Perry, 1983). Employees must believe that the pay for performance system is "valid, fair, and nonpolitical" (Perry et al., 2009, p. 45). Without the perception of fair and valid performance measurement, there is little chance of establishing a connection between performance and rewards (Lawler, 2000b).

What causes people to perceive organizational decisions as fair? Organizational justice theory recognizes three categories of perceived fairness: distributive, procedural, and interactional fairness (Colquitt, Greenberg, & Zapata-Phelan, 2005). Distributive justice refers to the fairness of resource distributions or outcomes, such as pay, rewards, and promotions. Employees perceive outcome fairness when they believe they receive the rewards they deserve for the work performed as compared to others (Adams, 1965; Gilliland & Langdon, 1998; Greenberg, 1987a, 1987b, 1990, 1996; Lawler, 1981b).

Procedural justice refers to the fairness of the procedures used to determine outcomes, such as the process of performance evaluation. In the context of pay for performance, procedural fairness is achieved when employees feel the process of performance evaluation is fair. Research has found that employee reactions to administrative decisions depend not only on the decision itself but also on the perceived fairness of the decision-making process (Folger & Greenberg, 1985; Greenberg, 1987a, 1987b, 1990, 1996). Both distributive and procedural justice are considered "vital elements that influence the success or failure of any pay-for-performance plan" (Gabris & Ihrke, 2000, p. 42). Interactional justice refers to the interpersonal treatment a person receives from others, particularly organizational authorities such as leaders, managers, and supervisors (Bies, 2001; Bies & Moag, 1986; Colquitt et al., 2005). Altogether, distributive, procedural, and interactional justice, represent three dimensions of organizational justice that describe distinct perceptions of fairness (Colquitt et al., 2005).

Perceptions of fairness are significant because they influence so many important attitudes and behaviors in the workplace (Gilliland & Langdon, 1998; Landy & Conte, 2010). Three types of perceived fairness are particularly relevant to pay for performance. First, employees who believe their performance is measured fairly and accurately and who express confidence in the appraisal process are more likely to believe better performance will lead to rewards (Frank, 2011, Chapter Two; Nigro, 1981; Pearce & Perry, 1983). Studies have found that perceived effectiveness (Perry & Pearce, 1983) and perceived accuracy (Vest et al., 1995) of the performance appraisal system have a significant positive effect on pay for performance perceptions.

Second, research indicates that perceptions of fair treatment can lead to increased trust in supervisors, organizational commitment, and job satisfaction (Cropanzano & Greenberg, 1997). Employee views about fair treatment are also known to affect job performance, organizational citizenship, trust in the organization, and withdrawal behaviors such as absenteeism and turnover (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). One study found that federal employees are significantly more likely to believe in the promise of pay for performance if they feel they are treated fairly on all personnel matters (Frank, 2011, Chapter Two).

Third, how employees perceive their supervisors is crucial to perceptions of fairness on the job (Gilliland & Langdon, 1998). Managers and first-line supervisors are responsible for treating all employees fairly and equitably when making decisions. Because of their interaction with employees and their direct participation in the pay for performance decision-making process, it's imperative that supervisors are *perceived by* employees as evaluating performance and allocating rewards fairly. If employees see their evaluating supervisors as honest, objective, unbiased, and trustworthy, they are more likely to perceive the performance appraisal system as fair and accurate and to accept a new compensation system as legitimate (Gabris & Ihrke, 2000). Moreover, a recent study found that employees who think their supervisor makes pay for performance decisions fairly are significantly more likely to see a connection between pay and performance (Frank, 2011, Chapter Two).

In the past, problems with perceived unfairness have derailed many pay for performance programs at the state and federal government levels. Kellough and Nigro (2002, p. 163) found the "widespread perception that the performance appraisal process

was not fairly administered" to be "one of the most troubling problems revealed" in their evaluation of the GeorgiaGain program. Specifically, they found employees did not believe promises to reward high performance, perceived that "office politics" influenced performance ratings more than actual job performance, believed that management imposed quotas or limits on the number of high performance ratings allowed, and found employee confidence in the accuracy and fairness of the performance management system declined overall (Kellough & Nigro, 2002, pp. 153-156). Similar employee complaints have been made in the federal government. The *perception* of unfair performance ratings has consistently been reported as one of the biggest problems with performance-based federal pay (Perry, 1991, 2003; Underhill & Oman, 2007; U.S. GAO, 1990a, 2008).

High Quality Supervision

To succeed, pay for performance systems must be "implemented by well-trained managers in an organization with sound management practices and policies" (Mani, 2002, p. 142). Performance-based pay systems demand a "higher level of supervisory skill than traditional tenure-based pay systems" (U.S. MSPB, 2006, p. 6) because so many critical decisions regarding performance appraisals, pay raises, disciplinary actions, and promotions rely on supervisory judgment. Any agency considering pay for performance should ensure that its supervisors are capable of evaluating employee performance and allocating rewards in a fair and reasonable manner, and willing to be held accountable for their decisions (U.S. MSPB, 2006).

One underlying management problem found at state and federal levels of government is that supervisors consistently demonstrate unwillingness to differentiate

between employee levels of performance which leads to insufficient differentiation in rewards allocation (Beer & Cannon, 2004; Ingraham, 1993; Lane, 1994; Pearce & Perry, 1983; U.S. GAO, 2008; U.S. MSPB, 2006). There is also evidence of problems with inflated ratings or rater leniency because front-line supervisors want to avoid conflict and maintain a good relationship with employees (Eisenberg & Ingraham, 1993; Lane, 1994; Lane & Wolf, 1990; U.S. GAO, 1990a; U.S. MSPB, 2006). Overall, the failure of supervisors to distinguish between the best and worst performers can have serious consequences for a pay for performance program because it runs the risk of destroying what little confidence employees have in the performance evaluation system, creating mistrust between employees and management, and reducing the chance of having positive motivational results.

A high quality supervisor possesses excellent management and technical skills, provides timely and meaningful performance feedback, treats employees fairly, offers assistance to help struggling employees improve performance, and deals effectively with poor performers (U.S. MSPB, 2006, 2008). The best supervisors are also committed to making meaningful distinctions among different levels of employee performance and rewarding employees appropriately based on their actual performance rather than nonperformance factors (U.S. GAO, 2003b, 2005a; U.S. MSPB, 2006; U.S. OPM, 2002). A successful pay for performance environment demands nothing less.

Despite the need for people with strong managerial skills, the federal government tends to select and reward supervisors based on technical rather than managerial abilities. According to the U.S. Office of Personnel Management, “supervisory selections are placing too much emphasis on technical expertise and paying too little attention to

interpersonal skills and managerial competencies" (U.S. OPM, 2001, p. 2). Surveys indicate that most employees perceive that their federal supervisors performed the technical aspects of their jobs well but had ongoing problems with staffing, training, and performance management (U.S. MSPB, 1998). It therefore comes as no surprise that federal employees consistently rated their supervisors as having good technical but poor management skills between 1983 and 2007 (U.S. MSPB, 2008a).

While effective supervision greatly contributes to organizational success, poor supervision can be equally detrimental and extremely costly (U.S. MSPB, 1989) – especially when it comes to dealing with poor performers. When pay for performance works properly, top performers receive the greatest rewards, average performers receive substantially smaller rewards, and poor performers receive no rewards. The purpose of making meaningful distinctions in performance ratings is to motivate the best performers to stay with the organization and maintain high performance, encourage average performers to work harder to achieve higher performance, and persuade poor performers to either improve their performance or leave the organization (Ingraham, 1993; U.S. MSPB, 2006). By contrast, when poor performers receive the same rewards as top performers, pay for performance programs become dysfunctional by encouraging poor performance rather than discouraging it. Obviously, there's no incentive to behave differently unless there are different consequences associated with different performance levels (Skinner, 1969). That's why dealing with poor performers effectively is such a crucial aspect of pay for performance success (Lawler, 1981a; NAPA, 2004a; U.S. MSPB, 2006).

The federal government has a poor track record of dealing with poor performers (U.S. GAO, 1990b, 2005a; U.S. MSPB, 1995; U.S. OPM, 1999). Beside the long list of legitimate barriers to dealing with poor performers – such as a time-consuming and complex process, lack of training and confidence in the performance management system, a perceived lack of upper management support, and fear of employee grievances and lawsuits (U.S. GAO, 1990b, 2005a; U.S. OPM, 1999) – lies the simple fact that front-line supervisors generally dislike confrontation and are uncomfortable taking disciplinary or terminating actions against poor performers (Lawler, 1981a; U.S. GAO, 2005a). As a result, top performers end up receiving the same pay and rewards as poor performers, thus creating a sense of inequity (Adams, 1965) which tends to have a demoralizing and demotivating effect on the best performers (Thompson & Rainey, 2003). This explains why few federal workers expect to be rewarded for good performance or punished for poor performance (U.S. MSPB, 1982, 1995, 1999, 2003, 2007, 2008).

Trust in Decision-Makers

High levels of trust throughout the organization are necessary to create a favorable pay for performance environment (Brudney & Condrey, 1993; Condrey & Brudney, 1992; Ingraham, 1993; Kellough & Lu, 1993; Milkovich & Wigdor, 1991; U.S. MSPB, 2006). It's important that employees trust not only their immediate supervisors to rate their performance fairly and accurately (Fulk et al., 1985), but also top management officials to allocate sufficient funds to support performance-based pay increases and implement pay for performance plans fairly and consistently throughout the organization

(Vest et al., 2000). High levels of trust are required for employees to accept pay for performance systems and be motivated by them (Lawler, 1971).

Trust is also important because of its relationship to other employee beliefs and pay for performance concepts. Research suggests that the degree of trust in decision-making can influence perceived fairness regarding performance evaluation and reward distribution, which in turn affects the motivational impact of any pay for performance system (Brudney & Condrey, 1993). Scholars consider organizational trust to be crucial to the development of a pay for performance link (Lawler, 1981b, 1990; Nigro, 1982). Several studies found a significant positive relationship between pay for performance perceptions and employee trust in supervisors (Folger & Konovsky, 1989) as well as trust in top management (Vest et al., 2000). Some found a significant relationship between pay for performance belief and trust in all decision-makers (St-Onge, 2000), while others found no significant relationship (Frank, 2011, Chapter Two).

Organizational Culture

A supportive organizational culture is a prerequisite for implementing pay for performance. Research and practice indicate that the success of pay for performance programs is "substantially influenced by the organizational context in which they are embedded" (Milkovich & Wigdor, 1991, p. 4). Gabris and Ihrke (2000) discovered that positive employee attitudes towards a new performance-based pay system depended more on the cultural context within the organization than on any particular element within the pay system. Due to its sizeable impact, Golembiewski (1986) recommends that attention be spent up-front on developing sufficient "cultural preparedness" before starting a new compensation system.

Important elements of organizational culture identified in the public sector include valuing employee opinions, treating people with respect, sharing information freely, having a flexible workplace, and promoting a spirit of teamwork and cooperation (Brewer & Selden, 2000; DiIulio, 1994; Gore, 1993; Osborne & Gaebler, 1992; Rainey & Steinbauer, 1999). Organizational performance is higher in federal agencies with cultures that empowered employees by valuing their input, taking their contributions seriously, and treating people with respect (Brewer & Selden, 2000). Federal employees are significantly more likely to see a connection between pay and performance if they have positive perceptions of their organizational culture (Frank, 2011, Chapter Two).

One of the main features required by pay for performance is a culture in which employees at all levels of the organization are committed to achieving high performance (U.S. MSPB, 2006). Unfortunately, the current federal personnel system under Title 5 is better known for promoting high attendance rather than motivating high performance. Because government agencies have such a long history of being process-oriented rather than results-oriented, changing their organizational culture will not be quick or easy to do (U.S. GAO, 2001b). Decades of experience basing pay on seniority rather than performance constitutes one of the main factors working against the federal government's pay for performance reform efforts (Heneman & Werner, 2005).

To summarize, agencies should review their readiness status on a number of prerequisite conditions prior to implementing a pay for performance system. Special attention should be paid to the following areas: (1) adequate funding and (2) sufficient managerial authority needed to reward high performance; (3) the degree to which employees can be motivated by money; (4) the strength of the perceived link between pay

and performance; (5) employee attitudes towards pay for performance; (6) the existence of an effective and credible performance evaluation system; (7) perceptions of fair treatment about performance ratings and other personnel decisions; (8) perceived supervisory fairness in decision-making; (9) quality of supervision; (10) levels of trust throughout the organization; and (11) an organizational culture that emphasizes performance. Is the federal government ready to implement pay for performance? Are some agencies more ready than others for pay for performance? How will agency readiness impact the future of pay for performance reforms? Fortunately, federal data is available to help answer these questions.

Data and Methods

To assess the federal government's readiness for pay for performance, I utilize survey data from the U.S. MSPB's Merit Principles Survey conducted in 2005. The Merit Principles Survey of 2005 asked a variety of questions regarding employee perceptions of their jobs, work environment, supervisors, and agencies, with special emphasis on pay for performance and reward issues. This survey was administered to a random sample of 74,000 full-time permanent civilian employees across 24 executive branch federal agencies. The sample was stratified by agency to ensure sufficient numbers of respondents from each federal agency to permit cross-agency comparisons. A total of 36,926 respondents completed this survey for a 50 percent response rate. For the purpose of this study, I restricted the dataset to white-collar employees within the GS pay system which reduced the sample size to 25,536. All statistics were weighted using U.S. MSPB's sampling weights to make the data more representative of the overall white-collar federal workforce.

Assessing Readiness

To facilitate successful organizational change, it's beneficial to assess an organization's state of readiness for change prior to implementation of new policies or programs (Armenakis et al., 1993). Both quantitative and qualitative research methods have been used to assess readiness for change, including questionnaire, interview, and observation methods (Armenakis, Harris, & Feild, 2001; Holt, Armenakis, Feild, et al., 2007). It's common practice for researchers to assess employee attitudes towards organizational change initiatives using self-reported methods (Armenakis & Bedeian, 1999).

Although readiness can be measured at different levels (e.g., organization, work group, or individual), most studies measure readiness at the individual level because organizational change is implemented through people (Holt, Armenakis, Harris, & Feild, 2007).[3] This individual focus recognizes the significant role of employees when implementing planned changes – specifically, individual attitudes that either support or resist change. An individual level of analysis is consistent with a realization that a "critical mass" of employee support is needed for successful implementation of organizational change (Berman, 2004, 2006). An individual focus also allows for a comparison of the differing states of readiness across organizations.

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[3] For a review of 32 instruments measuring readiness for change, see Holt, Armenakis, Harris, and Feild (2007).

A Scorecard Approach

To determine whether the federal government is ready to begin a new compensation system like pay for performance, leaders and managers need information concerning: (1) what criteria are required for successful implementation; (2) where the government stands in terms of meeting these criteria prior to implementation; and (3) how much improvement is still needed before proceeding with implementation. Scorecards have been widely used by the federal government since the 1990s (Breul & Kamensky, 2008; Rosenbloom, 2007). A scorecard approach to readiness assessment was chosen to provide government officials the information they need to make an informed decision about pay for performance in a familiar format. This scorecard also facilitates comparison throughout the government in order to identify which agencies performed better or worse according to the criteria and highlight areas needing the most improvement. Using a criteria-based model with self-assessment data offers a useful and innovative tool for evaluating organizational change readiness in a way that should promote greater understanding of the topic at a time that is most relevant to decision-makers.

The readiness scorecard is designed primarily as a self-assessment tool with emphasis on validity, relevance, and functionality.[4] Validity pertains to the scorecard's content which "should meet widely accepted standards of scientific practice" (Gormley &

[4] Gormley and Weimer (1999, pp. 36-37) identify six criteria for assessing organizational report cards, including: validity and comprehensiveness pertaining to report card content, comprehensibility and relevance concerning the use of report cards, and reasonableness and functionality related to organizational responses to report cards. These concepts were adapted for the purposes of this scorecard. The reason for calling this a scorecard rather than a report card was because scorecards are self-assessment tools developed internally and for internal use, while report cards are external assessments developed by and for outsiders (Gormley & Weimer, 1999, p. 4).

Weimer, 1999, p. 36). The criteria chosen for the scorecard's content were drawn from peer-reviewed publications of empirical studies and theoretical research applicable to pay for performance. Data coverage should be sufficient to make the content of this scorecard valid because all of the key criteria identified by the literature are included. However, it does not pretend to be comprehensive due to limitations of the data available. The scorecard emphasizes relevance because potential users – namely, federal agencies considering pay for performance – desperately need the information being provided. Last, the scorecard focuses on functionality because it attempts to convince federal agencies to react in a constructive and functional manner.

Variable Description and Operationalization

The survey items included in this scorecard are from questions measured on a 5-point Likert-type scale. Most responses were coded as: 1 for "Strongly Disagree," 2 for "Disagree," 3 for "Neither Agree nor Disagree," 4 for "Agree," and 5 for "Strongly Agree." Responses coded as 1 and 2 were combined to form a single category of disagreement, while responses coded as 4 and 5 were combined to form a single agreement category. In some cases, other types of responses were used ranging from unimportant to important or listing degrees of fair treatment. In each case, responses were categorized in a similar fashion to maintain consistency.

In some cases, the survey asked multiple questions on similar topics. Using principal components factor analysis, I developed group measures by combining the questions that best represented my theoretical concepts. The Cronbach's alpha, which measures scale reliability from 0 to 1, is presented for each grouped variable. This study

only includes variables with an alpha above .70, which is the threshold suggested by Nunnally (1978).

Questions chosen for inclusion in the scorecard represent criteria identified by the literature as being particularly crucial to pay for performance success and generally important to the success of organizational change efforts. Eleven criteria for pay for performance success are measured by the scorecard: *budget adequacy, sufficient managerial authority, motivated by money, pay for performance belief, pay for performance expectations, performance evaluation system, fair treatment on the job, supervisory fairness, quality of supervision, trust in decision-makers*, and *organizational culture*. The scorecard contains a total of 62 individual items. Table 4 shows how each criteria for success were operationalized, provides the Cronbach's alpha for each grouped variable, and the exact wording of each scorecard item. Collectively, the scorecard's rating of employee attitudes in these areas provides a valuable framework for assessing pay for performance readiness.

Two variables – *budget adequacy* and *sufficient managerial authority* – capture the federal managers' perspective on whether funding and authority levels are sufficient to appropriately reward high performance using pay increases or awards. Each criteria consists of a single item from 5-point Likert-type scales (strongly disagree to strongly agree). Both items are flawed in the following ways. First, neither item provides any objective or verifiable data to support the questionnaire responses. Second, both areas of funding and managerial authority are typically targeted for improvement after pay for performance adoption. Nevertheless, it's important to measure both criteria before and after implementation using self-reported methods for several reasons. Low scores before

pay for performance implementation indicate how much improvement is needed in these areas (i.e., an important readiness indicator). After implementation, persistent low scores may indicate a different problem among managers who either aren't aware that adequate funding and managerial authority are available to them or don't believe that the funding and authority levels are adequate to implement pay for performance effectively. Consequently, these items remain in the scorecard for the purpose of assessing readiness and limitations are addressed in the scoring methodology by reporting but not counting these scores when determining the final government and agency ratings for readiness.

Motivated by money was assessed using two items from 5-point Likert-type scales (very unimportant to very important). These items measure the importance of cash awards in the amounts of $100 and $1,000 respectively in motivating employees to do a good job. This criteria is extremely important since pay for performance works best when employees are highly motivated by extrinsic rewards such as cash awards.

Pay for performance belief consists of a single item from a 5-point Likert-type scale (strongly disagree to strongly agree). This item measures the personal belief that good performance will result in a cash award or pay increase. Without this fundamental belief, the promise of pay for performance loses its motivational power.

Pay for performance expectations is a 7-item index (Cronbach's alpha = .86) using 5-point Likert-type scales (strongly disagree to strongly agree). This measure addresses employee opinions about what will happen if pay is based on performance, in terms of motivating people to work harder, increasing individual pay, helping the agency retain high performers, encouraging teamwork, and increasing morale. On the negative

side, it also measures employee fears that pay for performance may result in unfair treatment of employees and increase employee vulnerability to political coercion.

Performance evaluation system is a 7-item index (Cronbach's alpha = .89) using 5-point Likert-type scales (strongly disagree to strongly agree). It combines items measuring knowledge of performance expectations and the basis for performance ratings with the appropriateness of performance standards, accuracy and objectivity of performance evaluation measures, employee participation in setting standards and goals, and opportunities to earn a high performance rating. The more employees perceive their performance evaluation system as a fair and valid measurement of job performance, the greater the chance for pay for performance success.

Two separate indexes measure perceived fairness in the federal workplace. *Fair treatment on the job* consists of a 7-item index (Cronbach's alpha = .87) using 5-point Likert-type scales (no extent to very great extent). It represents employee perceptions of fair treatment regarding career advancement, awards, training, performance appraisals, job assignments, discipline, and pay. *Supervisory fairness* is a 5-item index (Cronbach's alpha = .85) using 5-point Likert-type scales (no extent to great extent).[5] It describes employee attitudes regarding the fairness and effectiveness of supervisory behavior when rating job applicants, selecting people for vacancies or promotions, determining pay increases and awards, establishing individual pay levels within broad pay bands, and taking adverse actions. Together, these criteria form a

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[5] For S*upervisory Fairness* (Question 32a-e), the Merit Principles Survey 2005 contained five response categories as follows: Don't Know / Can't Judge, No Extent, Minimal Extent, Moderate Extent, and Great Extent. This was the only variable in the scorecard that included "Don't Know/Can't Judge" responses in the percentage totals.

powerful “fairness test” that agencies need to pass in order to have the best chance of implementing pay for performance successfully.

Quality of supervision is a 9-item index (Cronbach’s alpha = .95) using 5-point Likert-type scales (strongly disagree to strongly agree). It measures whether employees believe their supervisors engage in a wide range of activities including: providing constructive and timely feedback about job performance; helping employees improve their skills and performance by providing coaching, training opportunities, or assistance; rating performance fairly and accurately and being held accountable for doing so; dealing effectively with poor performers; and responding constructively to workplace conflicts. It also asks employee opinions about whether their supervisor has good technical and management skills. Collectively, these items provide a comprehensive view of supervisory quality.

Trust in decision-makers combines two indexes that measure whether employees trust their immediate supervisors and upper level managers to take actions relevant to pay for performance. Based on theory and previous empirical research, trust is measured separately for each level of supervision. At the first level, *trust in immediate supervisor* represents an 8-item index (Cronbach’s alpha = .96) using 5-point Likert-type scales (strongly disagree to strongly agree). This measure addresses the immediate supervisor’s ability to fairly assess employee performance and contributions, support employees in pay and award discussions with upper management, listen fairly to employee concerns, apply discipline fairly, clearly communicate conduct expectations, act with integrity, refrain from favoritism, and keep people informed. At the second level, *trust in upper management* is a 7-item index (Cronbach’s alpha = .96) using 5-point Likert-type scales

(strongly disagree to strongly agree). It measures the ability of upper level managers to clearly communicate organizational performance expectations, fairly assess employee performance and contributions, listen fairly to employee concerns, apply discipline fairly, act with integrity, refrain from favoritism, and keep the organization informed.

Organizational culture is a 7-item index (Cronbach's alpha = .88) using 5-point Likert-type scales (strongly disagree to strongly agree). It includes questions that are consistent with previous research using U.S. MSPB survey data (e.g., Brewer, 2005; Brewer & Selden, 2000). It measures employee perceptions about being treated with respect in the workplace and whether employee opinions count at work, information is shared freely, a spirit of cooperation and teamwork exists, their work unit responds flexibly to changing conditions, recognition and rewards are based on performance, and their organization ensures that employees are appropriately paid and rewarded.

Last, I created a series of dichotomous variables to account for the agency in which the respondent works (*agency of employment*). The following 24 executive branch agencies were included in this study: Agriculture, Commerce, Defense (Air Force, Army, Navy, Other Defense), Education, Energy, Environmental Protection Agency (EPA), Federal Deposit Insurance Corporation (FDIC), General Services Administration (GSA), Health and Human Services (HHS), Homeland Security (DHS), Housing and Urban Development (HUD), Interior, Justice, Labor, National Aeronautics and Space Administration (NASA), Office of Personnel Management (OPM), Social Security Administration (SSA), State, Transportation (DOT), Treasury, and Veterans Affairs (VA).

Traffic Light System

The scorecard uses a traffic light grading system where each score is designated a different color (green, yellow, or red). This method was chosen because of its previous use in the federal government. The Government Performance and Results Act of 1993 and the Bush administration's President's Management Agenda of 2001 both used traffic light scorecards to track the status and progress of each federal agency (Breul & Kamensky, 2008). In general, green means that the agency has met all of the elements required for success; yellow means that the agency has achieved intermediate levels of success; and red means that the agency has failed in one or more areas required for success. Adopting a grading system that is familiar to federal agencies makes the results easier to understand and interpret, while simultaneously increasing the potential for governmentwide use.

Measuring Success

The scorecard utilizes a graduated scale. This makes it increasingly difficult to advance to the next higher level. Because the scorecard data represents a percentage of favorable responses, the highest possible score is 100 percent for each scorecard item. The overall scorecard consists of three zones divided as follows: 40 percentage points for the red "failure" zone; 35 percentage points for the yellow "caution" zone; and 25 percentage points for the green "success" zone. Having a large failure zone with a smaller success zone is not without precedent. Under the academic grading system, 0 to 59.9 represents a failing grade of F, while the higher grades of D through A have a smaller 10 point difference between them.

In order to receive a green rating overall, an agency has to be in the green on all scorecard items with no yellows or reds allowed. A yellow rating means an agency received all or some yellows with no reds allowed. An overall rating of red consists of one or more items in the red zone that may be combined with yellows or greens in remaining areas. The lowest individual item score determines the zone for the whole criteria, which is consistent with previous federal scoring systems such as the President's Management Agenda (see U.S. Office of Management and Budget [OMB], 2001, document M-02-02 for details).

Agencies with the best chance for pay for performance success receive a green light to go ahead with implementation plans. Green status is the hardest to achieve, requiring a 75 to 100 percent favorable response in all areas of the scorecard. Agencies with some chance for success are given the yellow caution light which universally means to slow down because they are not quite ready for pay for performance. Yellow status is fairly easy to achieve with a 40 to 74 percent favorable response in at least one area of the scorecard. Last, agencies with little chance for pay for performance success are given the red light. Agencies in the red zone should stop what they are doing immediately and reassess their position on pay for performance. The red zone consists of a 0 to 39 percent favorable response in one or more areas of the scorecard, representing the lowest level of employee support for pay for performance. A sensitivity analysis is conducted later to show how results would differ if zone percentages and rules for measuring success were changed.

Scorecard Results

Descriptive Statistics

Table 4 presents descriptive statistics for the federal government as a whole in the form of percentage response rates for individual scorecard items. Each survey question included in the scorecard is listed here, along with factor loadings and Cronbach's alpha for indexed variables. Overall criteria zones of green, yellow, or red are displayed next to the scorecard criteria, along with individual item scores and the corresponding green deficit scores.

The federal government failed to reach the green "success" zone on any of the 11 criteria required for pay for performance success: 5 criteria made it into the yellow "caution" zone and 6 criteria landed in the red "failure" zone. These criteria contained a total of 62 individual scorecard items. Among them, only 2 individual scorecard items achieved green scores; 48 individual scorecard items achieved yellow scores; and 12 individual scorecard items achieved red scores.

Where is the Federal Government Scoring the Highest?

Green Scores. Two individual scorecard items achieved green status: 82.1 percent of federal employees agreed that they understood the basis for their most recent performance rating (*performance evaluation system*); and 76.5 percent of federal employees felt they were treated with respect at work (*organizational culture*).

Where is the Federal Government Achieving Mediocre Scores?

Yellow Zones. The federal government reached the yellow zone in 5 out of 11 pay for performance criteria: *budget adequacy, sufficient managerial authority, pay for*

performance belief, *performance evaluation system*, and *trust in decision-makers*. Across the entire scorecard, 48 out of 62 individual items received yellow scores. This grade suggests that the federal government has achieved an intermediate level of success in each of these areas but requires further improvement to increase the chances of pay for performance success.

Management Perspective: *Budget Adequacy* and S*ufficient Managerial Authority* (Yellow Zone). When supervisors were asked if they had adequate funds and sufficient managerial authority to reward high performance, less than half agreed. Only 45.0 percent of federal supervisors agreed that their organization has adequate funds to appropriately reward high performance, while 38.0 percent disagreed. Even fewer supervisors (41.8 percent) agreed that they had enough authority to reward high performance, while a slightly higher percentage disagreed (42.7 percent). These findings are consistent with a historical pattern of low funding and political support which tends to evaporate shortly after pay for performance implementation. Although scores in these areas are expected to be lower before pay for performance implementation compared to afterwards, it's important to measure readiness in these areas to see how much improvement is needed prior to introducing organizational change.

Pay for Performance Belief (Yellow Zone). Only 41.5 percent of federal employees believed the government's promise that good performance was likely to result in a cash award or pay increase, while 34.3 percent disagreed. This illustrates a weak relationship between pay and performance in the eyes of federal employees which needs to be strengthened considerably to increase the chances of pay for performance success. In each of these criteria – *budget adequacy*, *sufficient managerial authority*, and *pay for*

performance belief – the percentage of favorable responses barely achieved yellow scores and could easily fall into the red zone in the future.

Performance Evaluation System (Yellow Zone). Federal employees expressed positive comments about their performance evaluation system. This criteria reached the yellow zone with 6 individual yellow scores and 1 green score. Earning green status, 82.1 percent of federal employees said they understood the basis for their most recent performance rating. A majority of employees (between 51 and 69 percent) agreed that objective measures were used to evaluate performance, employees had sufficient opportunities to earn a high performance rating, standards used to appraise performance were appropriate, and employees understood what must be done to receive a high performance rating (yellow scores). Nearly half of federal employees (49 percent) agreed that performance ratings accurately reflected job performance and employees participated in setting standards used to evaluate their job performance (yellow scores).

Trust in Decision-Makers (Yellow Zone). Employee trust in decision-makers turned out to be the strongest criteria in the yellow zone with the highest levels of agreement. In most areas, a majority of federal employees expressed considerable trust in immediate supervisors and upper management. However, a pattern does emerge showing that federal employees placed greater trust in their immediate supervisors with higher agreement levels between 58.7 and 71.8 percent for all categories (8 yellow scores) and comparatively less trust in upper management with 42.4 to 58.6 percent agreement (7 yellow scores). Specifically, immediate supervisors were trusted more than upper managers to fairly assess employee performance (by a difference of 21.3 percentage points), listen fairly to employee concerns (by a difference of 19.9 percentage

points), refrain from favoritism (by a difference of 16.2 percentage points), apply discipline fairly (by a difference of 14.3 percentage points), and act with integrity (by a difference of 13.2 percentage points). Overall, it's ironic that federal employees expressed the highest level of trust in all decision-makers to act with integrity, while simultaneously trusting them the least to refrain from favoritism.

Where is the Federal Government Failing?

Red Alert! The federal government reached the red zone with favorable responses at 39 percent or below in 6 out of 11 pay for performance criteria: *motivated by money, pay for performance expectations, fair treatment on the job, supervisory fairness, quality of supervision*, and *organizational culture*. Within these criteria, there were 12 individual scorecard items that landed in the red zone. Although the number of red scores is relatively low, this can be deceiving because the areas needing the most improvement may very well be among the most difficult to improve.

Motivated by Money (Red Zone). Using money to motivate better job performance presents unique challenges for the federal government. On the one hand, a large majority of employees (72.6 percent – yellow score) deemed a cash award of $1,000 to be important in motivating them to do a good job. On the other hand, only one third of federal employees (35.8 percent – red score) rated a smaller cash award of $100 as an important factor motivating good performance, while 29.2 percent rated it as unimportant. This means that while most federal employees can be motivated by sizeable amounts of money to perform better (at least a $1,000 cash award), significantly fewer employees can be motivated by smaller amounts of money such as a $100 cash award. The really bad news is that stressful economic times tend to reduce the amount of money

available for performance bonuses, thereby making the least motivating $100 cash awards the most likely to occur and the highly motivating $1,000 cash awards the least likely to occur.

Even more discouraging for the successful implementation of pay for performance is the relative unimportance of money as a performance motivator compared to other types of incentives. The Merit Principles Survey of 2005 asked federal employees: "How important are each of the following in motivating you to do a good job?" (Question 16). Employees were given a list of twelve motivating factors and asked to rate their level of importance from 1 for "Very Unimportant," 2 for "Unimportant," 3 for "Neither Important nor Unimportant," 4 for "Important," and 5 for "Very Important." Their answers help to explain some of the difficulties the federal government has experienced since it began experimenting with pay for performance. The percentage of federal employees who rated motivating factors as important (combining responses of 4 for "Important" and 5 for "Very Important") are shown in Table 3.

Table 3. What Motivates Federal Employees to Perform Better?

Rank	Percentage	Important Motivating Factors
1	98.2	Motivated by personal pride or satisfaction in work.
2	92.2	Motivated by a desire to help work unit meet its goals.
3	90.5	Motivated by a desire not to let coworkers down.
4	90.4	Motivated by their duty as a public employee.
5	83.9	Motivated by a desire not to let their supervisor down.
6	83.3	Motivated by a desire for a good performance rating.
7	72.6	Motivated by a cash award of $1,000.
8	71.8	Motivated by increased chances for promotion.
9	68.2	Motivated by recognition from coworkers.
10	52.2	Motivated by a time off award of 8 hours.
11	47.6	Motivated by non-cash recognition.
12	35.8	Motivated by a cash award of $100.

NOTES: Data source is the Merit Principles Survey of 2005.
Reduced sample includes General Schedule employees only.
Statistics were calculated using the U.S. MSPB sampling weight variable.

Out of the 12 factors listed above, the top five factors were all intrinsic motivators with extremely high percentages of federal employees (83.9 to 98.2 percent) listing them as important. The motivational importance of money achieved a ranking of 7th place for a $1,000 cash award and 12th or last place for a $100 cash award. These results show what public service motivation theorists have been saying for years (Perry & Wise, 1990) – namely, that government employees are more strongly motivated by factors other than money. The implications of this could be devastating to pay for performance programs trying to motivate better performance using monetary incentives alone.

Pay for Performance Expectations (Red Zone). Employee opinions about pay for performance yielded mixed results. Out of 7 individual scorecard items, 5 received yellow scores and 2 received red scores, thereby placing the entire criteria in the red zone. Many employee opinions about pay for performance were favorable. Between 64 and 70 percent of federal employees agreed that basing pay on performance would help the agency retain high performers, motivate employees to work harder, and increase their pay (yellow scores). About 45 percent agreed that basing pay on performance would also encourage teamwork and increase employee morale (yellow scores).

Other pay for performance expectations were decidedly more negative. Federal employees feared that basing pay on performance would have serious negative consequences: only 32.1 percent did not think pay for performance would result in unfair treatment of employees, while 34.4 percent feared that it would lead to unfair treatment; and only 21.8 percent believed that pay for performance would not increase employee vulnerability to political coercion, whereas 44.7 percent feared that it would (red scores).

Negative pay for performance expectations exceeded positive expectations in these two areas.

Fair Treatment on the Job (Red Zone). Federal employees believed they were treated fairly in most but not all areas of employment. Five out of 7 items received yellow scores and 2 received red scores, placing the entire criteria in the red zone. Starting with the highest yellow scores, a majority of federal employees felt they were treated fairly to a great extent regarding performance appraisals (56.4 percent), disciplinary actions (54.0 percent), and job assignments (52.1 percent). The lowest yellow scores were in the area of pay where 47.6 percent of federal employees felt they were treated fairly to a great extent, followed by training with a 40.6 percent fair treatment score. In other areas of personnel management, the federal government did not score as high.

The federal government landed in the red zone in two areas of fair treatment: awards and career advancement. Merely 39.4 percent of federal employees felt they were treated fairly to a great extent regarding awards, while 31.1 percent said they were treated fairly to little or no extent (red score). Employees reported the lowest amount of fair treatment in the area of career advancement where only 37.0 percent of federal employees reported being treated fairly to a great extent and even more federal employees (39.1 percent) said they were treated fairly to little or no extent (red score). With perceptions of fair pay receiving less than majority support and fairness regarding awards and promotions scoring even lower, the federal government needs to improve significantly before implementing a pay for performance system that depends so heavily on fair treatment in these areas.

Supervisory Fairness (Red Zone). *Supervisory fairness* received the worst scores of any criteria in the scorecard, with all 5 individual scorecard items in the red. One third of federal employees believed their supervisor would behave fairly to a great extent when rating job applicant qualifications (36.1 percent) and selecting people for vacancies or promotions (33.8 percent). Employees rated supervisors even lower when considering activities directly related to pay for performance. Less than 25 percent of federal employees thought their supervisor would behave in a fair and effective manner to a great extent when determining pay increases and awards (24.2 percent), establishing individual employee pay within broad pay bands (16.8 percent), and taking adverse actions (18.5 percent). In each of these three instances, negative perceptions of supervisory fairness exceeded positive perceptions by a wide margin (20 to 42 percent). These results clearly illustrate that federal supervisors have failed to pass a crucial pay for performance "fairness test" in the eyes of employees.

Quality of Supervision (Red Zone). The quality of federal supervision received moderate scores with one notable exception. Eight out of 9 individual scorecard items earned yellow scores, while one item's red score single-handedly placed the entire criteria in the red zone. Among the yellow scores, a majority of federal employees believed that federal supervisors were rating employee performance fairly and accurately (62.7 percent), and providing constructive (57.6 percent) and timely (53.7 percent) feedback. Less than half of federal employees agreed their supervisor was held accountable for rating employee performance fairly and accurately (48.1 percent), helped employees improve their skills and performance (47.3 percent), and responded constructively to workplace conflicts (46.3 percent). Consistent with past surveys, more

federal employees rated their supervisors as having good technical skills (69.1 percent) compared to 13.4 percent fewer federal employees who rated their supervisors as having good management skills (55.7 percent).

Most importantly, federal employee ratings plummeted into the red zone when asked if their supervisor deals effectively with poor performers: 30.4 percent agreed, 38.7 percent remained neutral, and 30.8 percent disagreed. This problem alone can destroy any chance of pay for performance success. Considering that effective handling of poor performers only received 22 percent agreement in the previous Merit Principles Survey of 2000 (U.S. MSPB, 2008a), an increase of 8 percent under the Merit Principles Survey of 2005 demonstrates that improvement is possible over time. However, these figures have a long way to go before they can support a pay for performance program.

Organizational Culture (Red Zone). *Organizational culture* received a wide variety of scores. Out of 7 individual scorecard items, 1 received a green score, 5 received yellow scores, and 1 received a red score putting the entire criteria in the red zone. The highest percentage of federal employees (76.5 percent – green score) felt they were treated with respect at work. In the yellow zone, a majority of federal employees agreed that their work unit responded flexibly to changing conditions (67.2 percent), a spirit of cooperation and teamwork existed in their work unit (65.0 percent), information was shared freely in their work unit (60.0 percent), and their opinions counted at work (54.5 percent). Unfortunately, two of the lowest scores are in areas most critical to pay for performance success. Less than half of federal employees (45.1 percent) agreed that recognition and rewards were based on performance, while 29.6 percent disagreed.

Finally, one key pay for performance element fell into the red zone when only 37.9 percent of federal employees agreed that their organization took steps to ensure that employees were appropriately paid and rewarded, while slightly fewer (34.3 percent) believed otherwise.

Table 4. Descriptive Statistics for the Federal Pay for Performance Scorecard

Scorecard Item	Disagree	Neither	Agree	Score	Green Deficit
Budget Adequacy (Management Only): YELLOW					
My organization has sufficient funds to appropriately reward high performance.	38.04	16.94	45.02	Yellow	- 29.98
Sufficient Managerial Authority (Management Only): YELLOW					
I have enough authority to reward high performance through pay increases or awards.	42.70	15.47	41.83	Yellow	- 33.17

Scorecard Item	Unimportant	Neither	Important	Score	Green Deficit
Motivated by Money: RED					
How important is a cash award of $100 in motivating you to do a good job?	29.21	34.97	35.82	Red	- 39.18
How important is a cash award of $1,000 in motivating you to do a good job?	8.73	18.65	72.62	Yellow	- 2.38

Table 4 (continued)

Scorecard Item	Disagree	Neither	Agree	Score	Green Deficit
Pay for Performance Belief: YELLOW					
If I perform well, it is likely I will receive a cash award or pay increase.	34.34	24.10	41.56	Yellow	- 33.44

Table 4 (continued)

Scorecard Item		Disagree	Neither	Agree	Score	Green Deficit
Pay for Performance Expectations: RED						
In my opinion, basing pay on performance:						
a.	Motivates employees to work harder.	12.66	17.52	69.82	Yellow	- 5.18
b.	Would increase my pay.	7.77	21.54	70.69	Yellow	- 4.31
c.	Would help my agency retain high performers.	14.30	20.86	64.84	Yellow	- 10.16
d.	Encourages teamwork.	26.72	28.02	45.26	Yellow	- 29.74
e.	Would not result in unfair treatment of employees.*	34.43	33.43	32.14	Red	- 42.86
f.	Increases employee morale.	25.90	28.70	45.40	Yellow	- 29.60
g.	Would not increase employee vulnerability to political coercion.*	44.69	33.48	21.83	Red	- 53.17

* Question wording reversed for positive effect.

FACTOR ANALYSIS: Factor loadings are between .54 and .87 and Cronbach's alpha = .86.

Table 4 (continued)

Scorecard Item	Disagree	Neither	Agree	Score	Green Deficit
Performance Evaluation System: YELLOW					
In my work unit, performance ratings accurately reflect job performance.	25.42	25.25	49.33	Yellow	- 25.67
I understand the basis for my most recent performance rating.	7.85	10.06	82.09	Green	None
The standards used to appraise my performance are appropriate.	16.13	17.59	66.28	Yellow	- 8.72
I participate in setting standards and goals used to evaluate my job performance.	30.24	20.20	49.56	Yellow	- 25.44
I understand what I must do to receive a high performance rating.	15.05	15.50	69.45	Yellow	- 5.55
I have sufficient opportunities to earn a high performance rating.	19.20	20.13	60.67	Yellow	- 14.33
Objective measures are used to evaluate my performance.	25.26	23.46	51.28	Yellow	- 23.72

FACTOR ANALYSIS: Factor loadings are between .73 and .85 and Cronbach's alpha = .89.

Table 4 (continued)

Scorecard Item	Little or No Extent	Some Extent	Great Extent	Score	Green Deficit
Fair Treatment on the Job: RED					
In the past 2 years, to what extent do you believe you have been treated fairly regarding the following?					
a. Career advancement.	39.08	23.89	37.03	Red	- 37.97
b. Awards.	31.10	29.47	39.43	Red	- 35.57
c. Training.	28.00	31.40	40.60	Yellow	- 34.40
d. Performance appraisals.	17.58	25.98	56.44	Yellow	- 18.56
e. Job assignments.	21.20	26.72	52.08	Yellow	- 22.92
f. Discipline.	24.10	21.86	54.04	Yellow	- 20.96
g. Pay.	22.13	30.30	47.57	Yellow	- 27.43

FACTOR ANALYSIS: Factor loadings are between .67 and .79 and Cronbach's alpha = .87.

Table 4 (continued)

Scorecard Item	Minimal or No Extent*	Moderate Extent	Great Extent	Score	Green Deficit
Supervisory Fairness: RED					
To what extent do you think your supervisor will exercise the following authorities in a fair and effective manner?					
a. Rating the qualifications of job applicants.	29.13	34.79	36.07	Red	- 38.93
b. Selecting people for vacancies or promotions based on their qualifications.	32.67	33.54	33.79	Red	- 41.21
c. Determining pay increases and awards.	44.33	31.27	24.39	Red	- 50.61
d. Setting individual employees' pay within broad pay bands.	58.66	24.58	16.76	Red	- 58.24
e. Taking adverse actions such as suspensions and removals.	56.21	25.32	18.47	Red	- 56.53

FACTOR ANALYSIS: Factor loadings are between .73 and .86 and Cronbach's alpha = .85.

* Minimal or no extent category includes "don't know/can't judge" responses for this question only.

Table 4 (continued)

Scorecard Item	Disagree	Neither	Agree	Score	Green Deficit
Quality of Supervision: RED					
My supervisor provides constructive feedback on my job performance.	21.13	21.27	57.60	Yellow	- 17.40
My supervisor provides timely feedback on my job performance.	22.27	24.01	53.72	Yellow	- 21.28
My supervisor provides coaching, training opportunities, or other assistance to help me improve my skills and performance.	27.61	25.13	47.26	Yellow	- 27.74
My supervisor rates my performance fairly and accurately.	12.91	24.42	62.67	Yellow	- 12.33
My supervisor is held accountable for rating employee performance fairly and accurately.	18.80	33.11	48.09	Yellow	- 26.91
My supervisor deals effectively with poor performers.	30.80	38.75	30.45	Red	- 44.55
My supervisor responds constructively to workplace conflicts.	24.36	29.32	46.32	Yellow	- 28.68
My supervisor has good technical skills.	12.37	18.56	69.07	Yellow	- 5.93
My supervisor has good management skills.	22.90	21.44	55.66	Yellow	- 19.34

FACTOR ANALYSIS: Factor loadings are between .73 and .89 and Cronbach's alpha = .95.

Table 4 (continued)

Scorecard Item		Disagree	Neither	Agree	Score	Green Deficit
TRUST IN DECISION-MAKERS: YELLOW						
A. Trust in Immediate Supervisor: Yellow						
I trust my supervisor to do the following:						
a.	Fairly assess my performance and contributions.	12.91	15.70	71.39	Yellow	- 3.61
b.	Support me in pay and award discussions with upper management.	18.78	22.33	58.89	Yellow	- 16.11
c.	Listen fairly to my concerns.	13.81	14.81	71.38	Yellow	- 3.62
d.	Apply discipline fairly and only when justified.	16.12	19.69	64.19	Yellow	- 10.81
e.	Clearly communicate conduct expectations.	15.42	17.67	66.91	Yellow	- 8.09
f.	Act with integrity.	11.58	16.65	71.77	Yellow	- 3.23
g.	Refrain from favoritism.	22.48	18.87	58.65	Yellow	- 16.35
h.	Keep me informed.	20.64	18.21	61.15	Yellow	- 13.85

FACTOR ANALYSIS: Factor loadings are between .87 and .92 and Cronbach's alpha = .96.

Table 4 (continued)

Scorecard Item		Disagree	Neither	Agree	Score	Green Deficit
B. Trust in Upper Management: Yellow						
I trust managers above my immediate supervisor to:						
a.	Clearly communicate organizational performance expectations.	21.19	22.81	56.00	Yellow	- 19.00
b.	Fairly assess my performance and contributions.	23.14	26.75	50.11	Yellow	- 24.89
c.	Listen fairly to my concerns.	22.73	25.82	51.45	Yellow	- 23.55
d.	Apply discipline fairly and only when justified.	20.70	29.45	49.85	Yellow	- 25.15
e.	Act with integrity.	17.11	24.32	58.57	Yellow	- 16.43
f.	Refrain from favoritism.	30.07	27.49	42.44	Yellow	- 32.56
g.	Keep the organization informed.	23.64	24.95	51.41	Yellow	- 23.59

FACTOR ANALYSIS: Factor loadings are between .88 and .92 and Cronbach's alpha = .96.

Table 4 (continued)

Scorecard Item	Disagree	Neither	Agree	Score	Green Deficit
Organizational Culture: RED					
I am treated with respect at work.	10.93	12.55	76.52	Green	None
My opinions count at work.	21.31	24.15	54.54	Yellow	- 20.46
Information is shared freely in my work unit.	22.27	17.74	59.99	Yellow	- 15.01
A spirit of cooperation and teamwork exists in my work unit.	18.89	16.11	65.00	Yellow	- 10.00
My work unit responds flexibly to changing conditions.	13.87	18.89	67.24	Yellow	- 7.76
Recognition and rewards are based on performance.	29.61	25.31	45.08	Yellow	- 29.92
My organization takes steps to ensure that employees are appropriately paid and rewarded.	34.31	27.78	37.91	Red	- 37.09

FACTOR ANALYSIS: Factor loadings are between .66 and .83 and Cronbach's alpha = .88.

TOTAL GREEN DEFICIT: -1,425.17

Note. Agreement response categories were combined as follows: Disagree = Disagree and Strongly Disagree; Neither = Neither Agree Nor Disagree; and Agree = Agree and Strongly Agree. Descriptive statistics were calculated using the U.S. MSPB sampling weight variable and figures are shown in percentages. Reduced sample includes General Schedule employees only.

Traffic Light System with Graduated Zones: Green = 75.00 to 100.00 percent favorable response; Yellow = 40.00 to 74.99 percent favorable response; Red = 0.00 to 39.99 percent favorable response.

Agency Scores

Table 5 presents pay for performance criteria for success along with the corresponding criteria zones for all federal agencies. Among the 24 federal agencies surveyed, none reached the green zone on any of the pay for performance criteria for success. Yellow was the highest criteria zone achieved by any agency. All but one agency received a mixture of yellow and red criteria zones.

Six agencies received more yellow than red criteria zones. The Department of Commerce received the most yellow with fewest red criteria zones (8 yellow, 3 red). Not far behind were four other agencies (Army, Education, FDIC, and NASA) who achieved yellow zones in 7 out of 11 criteria, with 4 criteria in the red zone. One agency (EPA) earned a bare majority of yellow over red criteria zones (6 yellow, 5 red).

Seventeen agencies received more red than yellow criteria zones. Among them, five agencies (Air Force, GSA, HHS, HUD, and State) received 6 red and 5 yellow criteria zones, which matched the total federal government zones in number but not in area of scoring. Four agencies (Navy, DOD Other, Transportation, and Treasury) earned 7 red and 4 yellow criteria zones. Seven agencies (Agriculture, Energy, Interior, Labor, OPM, SSA, and VA) received 8 red and 3 yellow criteria zones, followed by one agency (Justice) who earned 9 red and 2 yellow criteria zones. Coming in last, one agency received nothing but red criteria zones. The Department of Homeland Security was the only agency that scored completely in the red zone on all pay for performance criteria for success.

Criteria Zones by Agency

Looking across Table 5, the criteria zones reveal the strongest and weakest pay for performance areas. No criteria received all yellow zones. Five criteria received a majority of yellow zones. The *performance evaluation system* received the most yellow criteria zones (19 yellow, 5 red). Within this criteria, five agencies (Homeland Security, HUD, Labor, OPM, and SSA) reached the red zone because less than 40 percent of federal employees agreed that employees participate in setting standards and goals used to evaluate job performance. *Budget adequacy* and *trust in decision-makers* received the next highest number of yellow criteria zones (18 yellow, 6 red). In the area of trust, six agencies (DOD Other, Energy, EPA, Homeland Security, SSA, and Treasury) reported a lack of trust in upper managers to refrain from favoritism to be problematic enough for individual scores to fall into the red zone. *Sufficient managerial authority* and *pay for performance belief* followed closely behind with 15 yellow and 9 red criteria zones. No federal agency received an overall red rating solely because of low scores in the areas of *budget adequacy* and *sufficient managerial authority*.

The remaining 6 criteria received all or mostly red zones. Starting with the best of the worst areas, *organizational culture* received 10 yellow and 14 red criteria zones, followed by *fair treatment on the job* with 7 yellow and 17 red criteria zones. *Motivated by money* received predominantly red criteria zones (4 yellow, 20 red) which makes one question the wisdom of focusing so heavily on monetary incentives in the first place. Finally, three criteria – *pay for performance expectations*, *supervisory fairness*, and *quality of supervision* – received the worst possible scores with red zones across all 24 federal agencies, suggesting areas in need of the most improvement.

Getting to Green

Getting into the green zone is the most difficult level to achieve, requiring a minimum favorable response of 75 percent on all scorecard items. When an agency finally reaches the green zone, it means it has achieved the highest standards for success as defined by the scorecard. But what about agencies that aren't in the green yet? Where do they stand comparatively in terms of pay for performance readiness?

Although criteria zones are extremely useful in identifying patterns across agencies and highlighting problem areas needing improvement, they don't tell the whole story. Because the scores contained within each criteria cover a range of responses, all criteria zones are not of equal value. For example, an agency receiving a yellow score with a 40 percent favorable response is less ready for pay for performance than an agency receiving the same yellow score with a 74 percent favorable response on any scorecard item. However, that difference in readiness isn't apparent from the individual yellow score or yellow criteria zone alone. The green deficit calculation was created to complete the picture and allow for direct agency comparisons of readiness levels.

What does the green deficit score mean? The green deficit calculates the distance between the favorable response and the green zone of 75 percent for each scorecard item. The green deficit shows how far each agency must improve before reaching the highest scorecard zone. It helps to determine comparatively which agencies need the most improvement in order to have the best chance for pay for performance success.

Table 5 presents the total green deficit for the entire scorecard with rankings for each federal agency. Out of 24 federal agencies surveyed, NASA ranked the highest in 1st place for their pay for performance readiness with a total green deficit of -988.74.

This score puts NASA 436.43 percentage points closer to the green zone than the overall federal government which has a total green deficit of -1,425.17. Agencies that have already implemented pay for performance to some degree are not highly ranked by this scorecard.[6] The FDIC implemented a revised pay for performance program in 2003 (U.S. OPM, 2005) and ranked in 4th place on the pay for performance readiness scorecard. The Treasury Department overall ranked in 8th place on the pay for performance readiness scorecard which includes the IRS whose pay for performance system began in 2001.

Other agencies with pay for performance systems scored considerably worse. Although the Federal Aviation Administration (FAA) has utilized a pay for performance system since 1996, the Department of Transportation (DOT) ranked among the worst prepared for pay for performance in 23rd place on this scorecard. The newest additions to the pay for performance club include the Departments of Defense and Homeland Security who both received authorization to develop their own pay for performance systems in 2002 under the Homeland Security Act. The Department of Defense scored higher than Homeland Security on the pay for performance readiness scorecard. Within the Department of Defense, some groups ranked much higher than others: the Air Force landed in 6th place, the Army followed in 9th place, the Navy was next in 16th place, and DOD Other was in 17th place.

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[6] For a list of performance-based alternative pay systems within the federal government, see the U.S. Office of Personnel Management report on "Alternative Personnel Systems in Practice and A Guide to the Future" dated October 2005.

Of all the federal agencies surveyed, the Department of Homeland Security ranked last on this scorecard in 24th place as the agency least ready for pay for performance. Moreover, their lack of pay for performance readiness is considerably worse than other agencies surveyed. While NASA is only -988.74 percentage points away from getting the green light to proceed with pay for performance, Homeland Security is -1,857.02 percentage points away from the green zone (a difference of -868.28 percentage points) – despite having a pay for performance system already in place. Furthermore, Homeland Security's green deficit score is 431.85 percentage points worse than the green deficit for the entire federal government. With the Defense Department's National Security Personnel System already on the verge of total collapse, these scorecard results predict the next pay for performance program to fall will be at Homeland Security.

Table 5. Pay for Performance Readiness Scores by Federal Agency

Criteria for Success	Federal Government
Budget Adequacy	Yellow
Sufficient Managerial Authority	Yellow
Motivated by Money	Red
Pay for Performance Belief	Yellow
Pay for Performance Expectations	Red
Performance Evaluation System	Yellow
Fair Treatment on the Job	Red
Supervisory Fairness	Red
Quality of Supervision	Red
Trust in Decision-Makers	Yellow
Organizational Culture	Red
Green Deficit Scores:	-1,425.17
Agency Rankings:	N/A

Table 5 (continued)

Criteria for Success	Agriculture	Commerce	DEFENSE: Air Force	DEFENSE: Army	DEFENSE: Navy	DEFENSE: DOD Other
Budget Adequacy	Red	Yellow	Yellow	Yellow	Yellow	Yellow
Sufficient Managerial Authority	Yellow	Yellow	Red	Yellow	Yellow	Yellow
Motivated by Money	Red	Yellow	Red	Red	Red	Red
Pay for Performance Belief	Red	Yellow	Yellow	Yellow	Red	Yellow
Pay for Performance Expectations	Red	Red	Red	Red	Red	Red
Performance Evaluation System	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Fair Treatment on the Job	Red	Yellow	Red	Yellow	Red	Red
Supervisory Fairness	Red	Red	Red	Red	Red	Red
Quality of Supervision	Red	Red	Red	Red	Red	Red
Trust in Decision-Makers	Yellow	Yellow	Yellow	Yellow	Yellow	Red
Organizational Culture	Red	Yellow	Yellow	Yellow	Red	Red
Green Deficit Scores:	-1,416.74	-1,223.53	-1,304.78	-1,380.67	-1,440.01	-1,442.87
Agency Rankings:	14	3	6	9	16	17

Table 5 (continued)

Criteria for Success	Education	Energy	EPA	FDIC	GSA	HHS
Budget Adequacy	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Sufficient Managerial Authority	Yellow	Red	Yellow	Yellow	Red	Yellow
Motivated by Money	Red	Red	Red	Red	Yellow	Red
Pay for Performance Belief	Yellow	Yellow	Yellow	Yellow	Red	Yellow
Pay for Performance Expectations	Red	Red	Red	Red	Red	Red
Performance Evaluation System	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Fair Treatment on the Job	Yellow	Red	Yellow	Yellow	Red	Red
Supervisory Fairness	Red	Red	Red	Red	Red	Red
Quality of Supervision	Red	Red	Red	Red	Red	Red
Trust in Decision-Makers	Yellow	Red	Red	Yellow	Yellow	Yellow
Organizational Culture	Yellow	Red	Yellow	Yellow	Yellow	Red
Green Deficit Scores:	-1,274.48	-1,509.63	-1,426.00	-1,270.06	-1,406.59	-1,382.55
Agency Rankings:	5	21	15	4	13	10

Table 5 (continued)

Criteria for Success	Homeland Security	HUD	Interior	Justice	Labor	NASA
Budget Adequacy	Red	Yellow	Red	Red	Yellow	Yellow
Sufficient Managerial Authority	Red	Yellow	Yellow	Red	Red	Yellow
Motivated by Money	Red	Red	Red	Red	Red	Red
Pay for Performance Belief	Red	Yellow	Red	Red	Yellow	Yellow
Pay for Performance Expectations	Red	Red	Red	Red	Red	Red
Performance Evaluation System	Red	Red	Yellow	Yellow	Red	Yellow
Fair Treatment on the Job	Red	Red	Red	Red	Red	Yellow
Supervisory Fairness	Red	Red	Red	Red	Red	Red
Quality of Supervision	Red	Red	Red	Red	Red	Red
Trust in Decision-Makers	Red	Yellow	Yellow	Yellow	Yellow	Yellow
Organizational Culture	Red	Yellow	Red	Red	Red	Yellow
Green Deficit Scores:	-1,857.02	-1,471.43	-1,509.33	-1,402.03	-1,500.19	- 988.74
Agency Rankings:	24	18	20	12	19	1

Table 5 (continued)

Criteria for Success	OPM	SSA	State	DOT	Treasury	VA
Budget Adequacy	Red	Yellow	Yellow	Yellow	Yellow	Red
Sufficient Managerial Authority	Red	Red	Yellow	Yellow	Yellow	Red
Motivated by Money	Yellow	Red	Red	Red	Red	Yellow
Pay for Performance Belief	Yellow	Yellow	Red	Red	Yellow	Red
Pay for Performance Expectations	Red	Red	Red	Red	Red	Red
Performance Evaluation System	Red	Red	Yellow	Yellow	Yellow	Yellow
Fair Treatment on the Job	Red	Red	Yellow	Red	Red	Red
Supervisory Fairness	Red	Red	Red	Red	Red	Red
Quality of Supervision	Red	Red	Red	Red	Red	Red
Trust in Decision-Makers	Yellow	Red	Yellow	Yellow	Red	Yellow
Organizational Culture	Red	Yellow	Red	Red	Red	Red
Green Deficit Scores:	-1,337.41	-1,540.27	-1,151.89	-1,543.67	-1,363.11	-1,401.70
Agency Rankings:	7	22	2	23	8	11

Scorecard Limitations

This scorecard is limited primarily by the data available for analysis. Although survey data contains employee perceptions rather than objective or verifiable facts, agencies would do well to remember that these "perceptions are reality for those who hold them" (U.S. MSPB, 2007, p. 62). Despite the fact that survey data is subject to bias and response error, it is the right kind of data to discern employee perceptions about pay for performance and readiness for organizational change that can have a significant impact on the probability of pay for performance success.

Within the Merit Principles Survey of 2005, missing data represents one of the main limitations. The current survey only asks about the motivational impact of hypothetical cash awards in the amounts of $100 and $1,000 respectively. In the future, it would be useful to know the exact dollar amount of actual performance awards issued and whether this amount was sufficient to motivate the same or higher levels of performance. Additional data is needed to determine the possibility of motivating more employees with an amount of money that falls outside these boundaries or somewhere in between $100 and $1,000. Adding objective data would also help to validate survey responses on budget adequacy. In particular, the scorecard would benefit from actual budgetary data concerning the amount of funding available for performance awards to determine budget adequacy for each federal agency.

Timing is an important issue when assessing readiness for change. Because readiness is a condition that varies over time, it needs to be measured frequently (Holt, Armenakis, Harris, et al., 2007). The Merit Principles Survey of 2005 offers a snapshot

of readiness at a fixed point in time. Additional assessments must be made at various points in time to measure changes in readiness prior to introducing change initiatives.

Another limitation stems from the fact that this scorecard is the first of its kind. No one has attempted to measure pay for performance readiness in this manner until now. Like trying to estimate the size of awards that will motivate better performance (Lawler, 1990), identifying how much employee support is required for pay for performance success is not an exact science. No study has determined the exact amount of employee support needed for pay for performance to achieve its objectives. Moreover, there currently is no basis for determining exactly how much readiness is needed for organizational change to succeed (Holt, Armenakis, Harris, et al., 2007).

Hence, this scorecard constitutes an estimate of how much readiness is needed to give pay for performance a realistic chance for success. The scorecard content and rules of measuring readiness should not be viewed as an absolute set of standards but rather as a template or guide that agencies can use to gauge their own level of readiness for change. Additional empirical testing and agreement on what is an acceptable level of readiness are both needed to advance this research to the next level. Practical applications of this scorecard may yield results that support, falsify, or prescribe making adjustments to the scorecard content and measurement parameters. This is to be expected with any new model. Because of its newness and originality, this scorecard will undoubtedly be subject to a great deal of scrutiny by academic scholars and government experts alike who may disagree with everything from the use of survey data to the scorecard approach, parameters, and design choices. One can only hope that such intense

scrutiny will ultimately benefit public policy by raising the level of debate and shaping the future of pay for performance decision-making.

Agency Reactions to Scorecard Results

One drawback of this and any scorecard is the uncertainty of not knowing how agencies will react to it. Although the purpose of this scorecard is to provide relevant information to help agencies decide if they are ready to implement pay for performance, there's no guarantee that the information will be accepted or used in the decision-making process. As Gormley and Weimer (1999, p. 13) explain: "Confronted by unpleasant revelations, an organization may respond by adopting practices aimed at self-improvement … [or] … the organization may respond dysfunctionally in an effort to defuse the reputational threat without addressing the root causes of its performance problems." With the pay for performance readiness scorecard, a positive agency response is most likely to occur within agencies who received higher scores and who have not yet adopted pay for performance. Alternatively, these scorecard results may trigger dysfunctional responses – such as, blaming the messenger, challenging the scorecard design, and manipulating the numbers (Gormley & Weimer, 1999) – especially among agencies who scored poorly and already have a pay for performance system in operation.

Sensitivity Analysis

When constructing a new metric for program evaluation, it is important to test the sensitivity of the analysis to determine the extent to which particular assumptions control the outcome. Are the measurement parameters correct? Is a 75 percent favorable response the correct value to use when determining the best chance for pay for

performance success? What if a lower number were used? What if different rules were applied? A sensitivity analysis investigates the possibility of getting different results by using different assumptions (Posavac & Carey, 2003). Results from a sensitivity analysis can increase confidence in the model and its predictions by demonstrating how the model's output responds to changing inputs (Saltelli, 2000). In terms of this pay for performance readiness scorecard, if the final outcome is the same regardless of the scoring system, then the results gain credibility.

Alternative Scoring Systems

A sensitivity analysis was conducted by comparing results from alternative scoring systems. The federal government's readiness for pay for performance was assessed according to the same criteria using two different scoring systems: (1) a traffic light system using equal zones consisting of 0 to 32 percent (Red), 33 to 66 percent (Yellow), and 67 to 100 percent (Green); and (2) a pass/fail system where 0 to 50 percent represents the failure zone and 51 to 100 percent represents the passing zone. The same rules were applied in each evaluation where the lowest favorable response on an individual scorecard item dictates the zone for the entire pay for performance criteria.

Results are shown in two tables. Table 6 presents criteria results from the sensitivity analysis of the federal pay for performance readiness scorecard. Table 7 displays the individual problem areas (red/failing scores) that put the federal government into the red zone under each scoring system. Combined, these tables show that 6 red scores were responsible for placing 3 pay for performance criteria in the red zone under all three scoring systems; 12 red scores were to blame for placing 6 pay for performance

criteria in the red zone under two scoring systems; and 28 failing scores were responsible for placing all pay for performance criteria in the failure zone under one scoring system.

Traffic Light System with Equal Zones. Out of these three scoring systems, the traffic light system with equal zones generated the most positive results. Using this scoring system, the federal government received more yellow than red zones (see Table 6). Eight criteria were in the yellow zone including *budget adequacy, sufficient managerial authority, motivated by money, pay for performance belief, performance evaluation system, fair treatment on the job, trust in decision-makers,* and *organizational culture*, indicating that some chance of pay for performance success exists. Only three criteria landed in the red zone where little chance of pay for performance success exists – namely, *pay for performance expectations, supervisory fairness*, and *quality of supervision*. The federal government failed to reach the green zone on any criteria under this system.

Pass/Fail System. The pass/fail system produced the worst possible results for the federal government. Under the pass/fail system, the federal government received a failing score (below 51 percent) on at least one item within all criteria indicating little chance of pay for performance success (0 Pass, 11 Fail). Out of 62 individual scorecard items, 34 items (54.8 percent) received passing scores and 28 items (45.2 percent) received failing scores.

Comparative Results

Based on the results shown in Table 6, none of the scoring systems rate the federal government as having the best chance of pay for performance success. The federal government failed to reach the green zone on any criteria under either traffic light system using equal or graduated zones, and it didn't reach the passing zone for any criteria under the pass/fail system. All three systems agree that the federal government is not in the best position to make pay for performance succeed.

None of the three scoring systems placed the federal government entirely in the yellow zone either. Both traffic light systems rated 5 pay for performance criteria in the yellow zone consistently (*budget adequacy*, *sufficient managerial authority*, *pay for performance belief*, *performance evaluation system*, and *trust in decision-makers*), while the same areas landed in the failure zone under the pass/fail system. Three areas (*motivated by money*, *fair treatment on the job*, and *organizational culture*) were rated yellow only by the traffic light system using equal zones, while the other two scoring systems placed those areas in the red/failure zone. Three pay for performance criteria (*pay for performance expectations*, *supervisory fairness*, and *quality of supervision*) were in the red/failure zone under all three scoring systems.

Table 6. Sensitivity Analysis Results for Federal Pay for Performance Readiness

Pay for Performance Criteria for Success	Equal Zones	Graduated Zones	Pass / Fail System
Budget Adequacy	**YELLOW**	**YELLOW**	**FAIL**
Sufficient Managerial Authority	**YELLOW**	**YELLOW**	**FAIL**
Motivated by Money	**YELLOW**	**RED**	**FAIL**
Pay for Performance Belief	**YELLOW**	**YELLOW**	**FAIL**
Pay for Performance Expectations	**RED**	**RED**	**FAIL**
Performance Evaluation System	**YELLOW**	**YELLOW**	**FAIL**
Fair Treatment on the Job	**YELLOW**	**RED**	**FAIL**
Supervisory Fairness	**RED**	**RED**	**FAIL**
Quality of Supervision	**RED**	**RED**	**FAIL**
Trust in Decision-Makers	**YELLOW**	**YELLOW**	**FAIL**
Organizational Culture	**YELLOW**	**RED**	**FAIL**

Graduated Zones: RED = 0 to 39.99; YELLOW = 40 to 74.99; GREEN = 75 to 100.
Equal Zones: RED = 0 to 32.99; YELLOW = 33 to 66.99; GREEN = 67 to 100.
Pass / Fail System: FAIL < 51 percent, PASS = 51 percent or greater.

Individual Problem Areas

Table 7 reveals that 6 individual scorecard items receiving red scores were responsible for placing 3 pay for performance criteria in the red zone (*pay for performance expectations*, *supervisory fairness*, and *quality of supervision*) under all three scoring systems. Employees were not convinced that pay for performance wouldn't lead to unfair treatment and increased vulnerability to political coercion in the workplace (*pay for performance expectations*). Employees lacked confidence that their supervisors would behave in a fair and effective manner to a great extent when determining pay increases and awards, establishing individual employee pay within broad pay bands, and taking adverse actions (*supervisory fairness*). And employees did not believe their supervisors dealt effectively with poor performers (*quality of supervision*). Each of these individual scorecard items represent deal breakers that pose the greatest threat to pay for performance success.

Six additional scorecard items received red/failing scores under two out of three scoring systems, placing 3 more pay for performance criteria in the red zone (*motivated by money*, *fair treatment on the job*, and *organizational culture*) under the traffic light system using graduated zones and the pass/fail system. Employees rated the possibility of receiving a $100 cash award as least important in motivating them to do a good job (*motivated by money*). Many employees did not believe they had been treated fairly to a great extent regarding career advancement and awards (*fair treatment on the job*). Employees did not think their supervisor would behave in a fair and effective manner to a great extent when rating job applicant qualifications and selecting people for vacancies or promotions (*supervisory fairness*). Not enough employees thought their organization

took steps to ensure that employees were appropriately paid and rewarded (*organizational culture*). These individual scorecard items represent important obstacles to pay for performance success that must be overcome.

Sixteen additional scorecard items received failing scores under the pass/fail system only, placing all remaining pay for performance criteria in the red/failure zone. Only a minority percentage of managers felt they had adequate funds or sufficient authority to reward high performance (*budget adequacy* and *sufficient managerial authority*). Not enough employees believed that they would receive a cash award or pay increase for good performance (*pay for performance belief*), basing pay on performance would encourage teamwork or increase morale (*pay for performance expectations*), or that performance ratings accurately reflected job performance and that employees participated in setting standards used to evaluate job performance (*performance evaluation system*). Less than 51 percent of employees felt they were treated fairly to a great extent regarding training and pay (*fair treatment on the job*). A majority of employees did not believe their supervisor would help them improve their skills and performance, be held accountable for rating employee performance fairly and accurately, and respond constructively to workplace conflicts (*quality of supervision*). Upper management was not trusted by a majority of employees to fairly assess employee performance, apply discipline fairly, or refrain from favoritism (*trust in decision-makers*). Not enough employees felt recognition and rewards were based on performance (*organizational culture*). Because these individual scorecard items failed to receive a majority of favorable responses, they deserve special attention to prevent them from becoming major barriers to pay for performance success.

Table 7. Sensitivity Analysis Comparison of Pay for Performance Problem Areas

Pay for Performance Criteria	Problem Areas (Red/Failure Zones)	Equal Zones	Graduated Zones	Pass/Fail System
Budget Adequacy	Managers believe their organization has sufficient funds to appropriately reward high performance.	Yellow	Yellow	FAIL
Sufficient Managerial Authority	Managers believe they have enough authority to reward high performance through pay increases or awards.	Yellow	Yellow	FAIL
Motivated by Money	Importance of a $100 cash award in motivating employees to do a good job.	Yellow	RED	FAIL
Pay for Performance Belief	Employee belief that they will receive a cash award or pay increase for good performance.	Yellow	Yellow	FAIL
Pay for Performance Expectations	Employee belief that basing pay on performance encourages teamwork.	Yellow	Yellow	FAIL
Pay for Performance Expectations	Employee belief that basing pay on performance would not result in unfair treatment of employees.	RED	RED	FAIL
Pay for Performance Expectations	Employee belief that basing pay on performance increases employee morale.	Yellow	Yellow	FAIL
Pay for Performance Expectations	Employee belief that basing pay on performance would not increase employee vulnerability to political coercion.	RED	RED	FAIL

Table 7 (continued)

Pay for Performance Criteria	Problem Areas (Red/Failure Zones)	Equal Zones	Graduated Zones	Pass/Fail System
Performance Evaluation System	Performance ratings accurately reflect job performance.	Yellow	Yellow	FAIL
Performance Evaluation System	Employee participation in setting standards and goals used to evaluate job performance.	Yellow	Yellow	FAIL
Fair Treatment on the Job	Extent to which employees believe they have been treated fairly regarding career advancement?	Yellow	RED	FAIL
Fair Treatment on the Job	Extent to which employees believe they have been treated fairly regarding awards?	Yellow	RED	FAIL
Fair Treatment on the Job	Extent to which employees believe they have been treated fairly regarding training?	Yellow	Yellow	FAIL
Fair Treatment on the Job	Extent to which employees believe they have been treated fairly regarding pay?	Yellow	Yellow	FAIL

Table 7 (continued)

Pay for Performance Criteria	Problem Areas (Red/Failure Zones)	Equal Zones	Graduated Zones	Pass/Fail System
Supervisory Fairness	Extent to which employees think their supervisor will rate job applicant qualifications in a fair and effective manner.	Yellow	RED	FAIL
Supervisory Fairness	Extent to which employees think their supervisor will select people for vacancies or promotions based on their qualifications in a fair and effective manner.	Yellow	RED	FAIL
Supervisory Fairness	Extent to which employees think their supervisor will determine pay increases and awards in a fair and effective manner.	RED	RED	FAIL
Supervisory Fairness	Extent to which employees think their supervisor will establish individual employee pay within broad pay bands in a fair and effective manner.	RED	RED	FAIL
Supervisory Fairness	Extent to which employees think their supervisor will take adverse actions in a fair and effective manner.	RED	RED	FAIL

Table 7 (continued)

Pay for Performance Criteria	Problem Areas (Red/Failure Zones)	Equal Zones	Graduated Zones	Pass/Fail System
Quality of Supervision	My supervisor provides coaching, training opportunities, or other assistance to help me improve my skills and performance.	Yellow	Yellow	FAIL
Quality of Supervision	My supervisor is held accountable for rating employee performance fairly and accurately.	Yellow	Yellow	FAIL
Quality of Supervision	My supervisor deals effectively with poor performers.	RED	RED	FAIL
Quality of Supervision	My supervisor responds constructively to workplace conflicts.	Yellow	Yellow	FAIL
Trust in Upper Management	I trust managers above my immediate supervisor to fairly assess my performance and contributions.	Yellow	Yellow	FAIL
Trust in Upper Management	I trust managers above my immediate supervisor to apply discipline fairly and only when justified.	Yellow	Yellow	FAIL
Trust in Upper Management	I trust managers above my immediate supervisor to refrain from favoritism.	Yellow	Yellow	FAIL
Organizational Culture	Recognition and rewards are based on performance.	Yellow	Yellow	FAIL
Organizational Culture	My organization takes steps to ensure that employees are appropriately paid and rewarded.	Yellow	RED	FAIL

Implications of Sensitivity Analysis

What do these scores mean? The traffic light system using equal zones indicates that the federal government has three serious problem areas to resolve and eight areas in need of additional improvement before proceeding with pay for performance. The traffic light system using graduated zones suggests that the federal government has six serious problem areas to resolve along with five areas needing improvement. Last, the pass/fail system issues a fatal blow to the federal government's pay for performance plans revealing little chance of success in any of the required elements. Since results from the traffic light system using graduated zones are supported by two out of three scoring systems, this approach appears to be a reasonable choice as it represents the middle ground in terms of scores. Regardless of which scoring system is used, the overall results from this sensitivity analysis suggest a state of pay for performance readiness has not yet been achieved in the federal government. Only the degree of unreadiness varies with changes in the scoring system. The message remains the same.

What Would It Take to Get One Agency into the Green?

Another way to evaluate the reasonableness of a scoring system is to consider what it would take for a single agency to be designated in the green zone using the current data. NASA was used as the test case for this experiment since it received the highest scorecard ranking with the most favorable scores. This time, instead of changing the favorable responses required for each zone, I used the original traffic light system with graduated zones and identified how many scorecard rules had to be changed (i.e., broken) for NASA to receive green status overall.

Under the new rules, pay for performance criteria are scored as follows. A green criteria zone consists of at least 1 green score and no more than 1 red score allowed. A yellow criteria zone contains a majority of yellow scores and no more than 1 red score allowed. A red criteria zone means there are 2 or more red scores for multi-item criteria. This system of scoring essentially allows green and yellow scores to cancel out the effects of a single red score, so the highest score received on any individual item determines the zone for the whole criteria.

In terms of overall agency ratings, the new rules follow a similar pattern. A green agency rating consists of 5 or more green criteria zones and no more than 1 red criteria zone allowed. A yellow agency rating contains at least 8 yellow criteria zones and no more than 1 red criteria zone. A red agency rating consists of 2 or more red criteria zones. Criteria zones for *budget adequacy* and *sufficient managerial authority* are reported but not counted towards the agency rating for reasons mentioned previously.

Using the traffic light system with graduated zones under new rules, NASA emerged as the only federal agency with a green rating. Under the new scoring system, NASA received 5 green criteria zones (*pay for performance expectations, performance evaluation system, quality of supervision, trust in decision-makers*, and *organizational culture*), 5 yellow criteria zones (*budget adequacy, sufficient managerial authority, motivated by money, pay for performance belief*, and *fair treatment on the job*), and 1 red criteria zone (*supervisory fairness*). The Department of Homeland Security remained in last place with 4 yellow and 7 red criteria zones. The most disturbing finding, however, is the agency that almost reached green status under these new scoring rules. Within the Department of Defense, the Air Force received 4 green criteria, 4 yellow criteria, and

2 red criteria that count (1 red that doesn't count under *sufficient managerial authority*). According to the new rules, the Air Force is only 1 green criteria away from being totally in the green. Since the Defense Department's pay for performance program has already failed, this result demonstrates the need for stricter scoring rules to be enforced.

Is the Federal Government Ready for Pay for Performance?

Judging from the results of this study, the federal government isn't ready to adopt pay for performance. Equally important is the finding that the degree of pay for performance readiness varies greatly by federal agency. While some federal agencies are more ready than others, none are sufficiently prepared to embark on a successful path towards pay for performance. Because agencies differ in so many ways including mission, leadership, resources, organizational culture, workforce demographics, and work environment, it is critical to acknowledge agency differences when making decisions about pay for performance.

The federal government should resist the urge to adopt pay for performance on a governmentwide basis and steer clear of the "one best way" of doing things approach which has hindered previous reform efforts (Hays & Kearney, 2003, pp. 12-13). Instead, each federal agency should be allowed to decide for itself whether pay for performance is right for them. To help them make an informed decision, agencies can use this scorecard as a first step towards evaluating their pay for performance readiness. "Although paying for performance requires attention to an extensive list of serious issues, considering them in advance of implementation enables organizations to lay the groundwork for a successful performance-based compensation system" (U.S. MSPB, 2006, p. 34). Once the decision has been made to adopt pay for performance, the level of agency variation

presented in this study suggests that pay for performance should be tailored to fit each agency's mission and needs. Just as pay for performance is not suited for every organization, a single pay for performance model will not fit everyone either. Only by customizing to meet agency needs, knowing what is required in advance, and laying a proper foundation beforehand, will pay for performance ever have a fighting chance for success.

Conclusion

The federal government is undergoing dramatic changes in how it manages human resources. Transforming the federal civil service from a seniority-based pay system with a process-oriented culture into a performance-based pay system with a results-oriented culture is a monumental undertaking that won't be quick or easy to accomplish. The manner in which pay for performance is handled during this time – particularly, decisions about whether to adopt it on a governmentwide basis or an individual agency basis, how best to prepare for and implement it, and how fast to proceed with changes throughout the process – will largely determine its success or failure.

One major lesson to be learned from this study is that pay for performance requires a lot more than just legislation and appropriations to succeed. Pay for performance needs a whole host of elements working together to sustain it. Before rushing to adopt pay for performance on a governmentwide basis, each federal agency should first evaluate its readiness status to determine their realistic chances of pay for performance success.

Does the agency have adequate resources, political support and sufficient managerial authority to reward high performance in a substantial and consistent manner? Is money highly valued as a motivational incentive for improved performance among federal employees? Are employees supportive in their pay for performance beliefs, expectations, and attitudes? Does the agency have a fair and accurate performance evaluation system that can support pay for performance? Do employees believe they are treated fairly in all areas of employment? Are employees confident that supervisory decisions regarding pay, awards, and promotions will be conducted in a fair and effective manner? Does the agency have high quality supervisors who are willing and able to differentiate between levels of performance and allocate performance awards accordingly? Are supervisors capable of dealing effectively with poor performers? Do employees have a high degree of trust in their decision-makers? Does the agency have a supportive and performance-based organizational culture? Results from this study show that the federal government doesn't have the necessary foundation in place for pay for performance to succeed. Agencies must recognize the inherent danger of moving forward with pay for performance without having all of the critical elements in place as a strategy which is capable of doing more harm than good.

This study highlights the importance of establishing a solid base of employee support prior to pay for performance implementation. Gaining employee support should be considered a necessity rather than a luxury, because pay for performance cannot succeed without willing participants. As scholars have noted: "While the failure of planned organizational change may be due to many factors, few are so critical as employees' attitudes towards the change event" (Jones et al., 2005, p. 362).

Results from this scorecard show that the prerequisite level of employee support is lacking throughout the federal government in every pay for performance criteria for success.

- Less than half of federal supervisors say they have adequate funding and sufficient managerial authority to reward high performance.
- Federal employees consider a $100 cash award as the least important factor motivating better performance (12th place) and increasing the cash award to $1,000 only improves its motivational ranking to 7th place.
- In the race to garner employee belief in the promise of pay for performance, the government has only made believers out of 41.5 percent of federal employees, while a third remain nonbelievers, and the rest are still on the fence.
- Employee concerns about unfair treatment persist across three pay for performance criteria: *pay for performance expectations, fair treatment on the job,* and *supervisory fairness*. Between 34.4 and 44.7 percent of federal employees have fearful expectations that pay for performance will result in unfair treatment and will increase employee vulnerability to political coercion. Perceived unfairness continues into fair treatment on the job where less than 40 percent of federal employees report being fairly treated regarding awards and career advancement. Supervisory decision-making receives the worst levels of perceived unfairness as federal employees clearly lack confidence that their supervisors will treat them fairly in matters of pay, awards, adverse actions, and promotions.

- The federal government's performance evaluation system receives high marks for explaining the rules to employees but lower marks for using objective performance measures, employee participation in setting performance standards, and having performance ratings that accurately reflect job performance.
- When evaluated by employees, federal supervisors are viewed as technically qualified but lacking in managerial skills, better at providing feedback than helping employees improve performance, able to rate performance fairly and accurately though not held accountable for doing so, struggling to respond constructively to workplace conflicts, and failing to deal effectively with poor performers.
- Between 42 and 71 percent of federal employees trust all decision-makers with immediate supervisors receiving higher levels of trust than upper management. However, employees remain concerned that decision-makers cannot be trusted to refrain from favoritism.
- Federal employees report having an organizational culture where people are treated with respect, work units respond flexibly to changing conditions, a spirit of cooperation and teamwork exists, information is shared freely, and employee opinions count. Still more work is needed to create a performance-based organizational culture within the federal government since less than half of federal employees (45.1 percent) believe recognition and rewards are based on performance and even fewer (37.9 percent) think their agency is committed to ensuring that employees are appropriately paid and rewarded.

Too often, employee opinions are overlooked or undervalued when policy decisions are being made. Such a mistake can be fatal to a pay for performance program. Federal agencies must adequately address employee opinions and areas of concern, while paying particular attention to persistent negative employee perceptions throughout the pay for performance process (U.S. GAO, 2008). Only by listening to employee concerns and correcting problem areas before implementation can agencies hope to achieve the level of readiness and employee support that pay for performance demands.

CHAPTER 4

PROMOTING GREATER PRODUCTIVITY

In 1978, President Jimmy Carter signed into law the Civil Service Reform Act in the hopes of achieving better government through better management (U.S. OPM, 1980). Out of nine merit principles established by the law to govern federal personnel management (Public Law No. 95-454, 92 Statute III), the fifth merit principle mandates the efficient and effective use of the federal workforce. In 1982, the U.S. MSPB conducted a study of federal employee productivity to search for what they called "the elusive bottom line." More than 30 years later, scholars and government experts alike are still searching for answers to federal productivity questions.

Declining confidence in government and reduced budgets have increased demands for improved productivity (Berman et al., 2010, pp. 6-9). Yet years of research have not found any "simple direct paths to productivity and performance in public organizations" (Holzer & Lee, 2004a, p. 2). Some of the most common approaches to productivity improvement include capital investments, organizational restructuring, privatization, work methods improvements, and human resource development measures (Berman, 1998, 2006; Holzer, 1992; Holzer & Callahan, 1998; Holzer & Lee, 2004b; Swiss, 1991; U.S. GAO, 1978, 1987). Although capital investments have been the greatest source of productivity improvements in both the public and private sectors (Swiss, 1991), they require substantial amounts of money. In light of scarce government resources, many experts recommend focusing improvement efforts on better management

of human capital (Agor, 1997; Daley, 2006; McGregor, 1988; U.S. GAO, 1987, 2001a, 2004b).

Emphasizing productivity through people is a common strategy which recognizes that people ultimately determine the level of productivity in any organization (Berman, 1998, 2006; Guy, 2004; Holzer & Lee, 2004b; Peters & Waterman, 1982). Enhancing productivity through people involves motivating employees by treating them with respect and encouraging greater participation in the workplace (Rainey, 2009). Peters and Waterman (1982) found that the most successful organizations treat employees as the main source of productivity gains (p. 14). They further note, "if you want productivity …, you must treat your workers as your most important asset" (Peters & Waterman, 1982, p. 238). Years later at the Wye River Conference (June 1999), public sector scholars and practitioners echoed the same sentiment by stressing the importance of "viewing federal employees as a human capital investment … as assets rather than as just necessary costs to be controlled" (Ingraham, Selden & Moynihan, 2000, p. 59). Government experts agreed, as demonstrated by U.S. GAO's designation of "strategic human capital management" as a governmentwide high-risk area, recognizing its critical importance to an agency's ability to achieve its mission (U.S. GAO, 2001a, p. 8).

While federal agencies are constantly searching for ways to promote productivity with existing resources, few studies have explored the determinants of productivity as seen through the eyes of government employees. My research attempts to fill this gap by developing a model that predicts productivity levels in the federal workplace. Drawing on government and academic studies, I identify key factors that are expected to motivate greater employee productivity. Next, I analyze responses from the Merit Principles

Survey of 2000 to see if federal employees are getting what they need to be productive in the workplace. Using multiple regression analysis, I determine which factors have the greatest impact on federal productivity. Finally, I discuss the implications of my findings regarding the potential for productivity improvement throughout the federal government.

Factors Affecting Productivity

Creating workplace conditions that promote productivity[7] requires a combination of factors (Holzer & Lee, 2004b). While certain elements require a commitment of resources (e.g., office equipment, sufficient employees, formal training, and monetary performance awards), others depend more on the relationship between management and workers and how well managers perform their duties in the eyes of employees. This study examines possible determinants of federal productivity in areas that managers can influence.

Adequate Resources and Training

Adequate resources are essential to the creation of a highly productive work environment (Guy, 1992b, 2004; Holzer & Lee, 2004b; Poister, 2003; Rainey, 2001). Resources such as sufficient employees, equipment, funding, and technology enable workers to achieve productivity goals (Guy, 2004). While public managers cannot control the amount of funding or number of employees assigned to their organization, they can control how effectively those resources are utilized (U.S. MSPB, 2008b).

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[7] While the terms productivity and performance are often used interchangeably, this study defines productivity as an important performance criteria (Rainey, 2009) that combines efficiency, effectiveness, and economy (or cost-effectiveness) into a single dimension (Poister, 2003).

In spite of difficulties obtaining adequate resources in times of economic stress, “budget constraints should not be viewed as an insurmountable obstacle to needed human capital reform” (U.S. GAO, 2007, p. 2). Instead, tighter budgets should encourage agencies to prioritize their needs and allocate their resources more carefully in order to achieve their missions (U.S. GAO, 2007). Optimizing the use of existing resources (i.e., getting the most out of them) is necessary to achieve efficiency and productivity gains (Halachmi, 2004; Lam, 2003).

Central to strategic human capital management is the view that people are “assets whose value to an organization can be enhanced through investment” (U.S. GAO, 2004a, p. 1). Scholars and government experts recognize the importance of training and development to help employees become productive organizational members and help retain productive employees interested in acquiring new skills for career advancement (Berman et al., 2010; U.S. GAO, 2009). Public agencies need to invest greater resources in training and development to ensure that employees have the knowledge, skills, and abilities needed to keep pace with the demands of a rapidly changing environment (Nigro, Nigro, & Kellough, 2007; U.S. GAO, 2004b). Unfortunately, “public employers have a long history of failing … to make sustained investments in the training and development of their workforces” (Nigro et al., 2007, p. 325). Despite budget limitations, employee training and development can still be accomplished using methods that do not require additional funding, such as on-the-job training, rotational assignments, coaching, and mentoring (Cayer, 2004; U.S. GAO, 2004a).

Work Motivation

Motivation is crucial to employee productivity and plays a central role in human resource management (Berman et al., 2010). Motivation is defined as "the drive or energy that compels people to act, with energy and persistence, toward some goal" (Berman et al., 2010, p. 180). Because productivity and motivation are closely linked, "when people lack motivation, productivity suffers" (Berman, 1998, p. 40). By contrast, "when people have motivation, they work with energy, enthusiasm, and initiative" (Berman et al., 2010, p. 181). The challenge for managers is to find ways that motivate employees to be more productive.

While no single, unifying theory of work motivation accounts for all the behavior found in the workplace, a variety of theories are relevant to productivity (Pinder, 1998, 2008). According to Herzberg and associates (Herzberg, 1966; Herzberg et al., 1959), higher levels of motivation result from jobs that offer interesting work, give employees a sense of responsibility over their work, provide opportunities and recognition for achievement, and foster feelings of growth through advancement (Pinder, 1998). Motivation factors such as responsibility, achievement, recognition, advancement, personal growth, and intrinsic value of the work itself collectively motivate employees to improve productivity (Herzberg et al., 1959). Similarly, Hackman and Oldham's (1980) job characteristics theory states that jobs providing a sense of meaning, usefulness, interesting work through varied activities, personal responsibility for work, greater autonomy or flexibility in performing work, significance of work contributions, and knowledge of the results of work efforts, will intrinsically motivate employees (Miner, 2005; Pinder, 2008).

Employee Engagement

The study of employee engagement has recently flourished among business, government, and academic scholars (Daley, 2008; Erickson, 2004; Gubman, 2004; Harter, Schmidt, & Hayes, 2002; Jamrog, 2004; Kowske, Lundby, & Rasch, 2009; Perrin, 2003; Schneider, Macey, Barbera, & Martin, 2009; Trahant, 2007; U.S. MSPB, 2008b, 2009). Employee engagement is defined as "a heightened connection between employees and their work, their organization, or the people they work for or with" (U.S. MSPB, 2008b, p. i). Engaged employees feel their work is interesting and meaningful, take pride in their work and workplace, think their organization's mission is important, have opportunities to perform well at work, believe their contributions are valued, and are highly motivated to perform at their best (U.S. MSPB, 2008b, 2009). Research consistently shows higher levels of employee engagement are linked to favorable organizational outcomes such as increased productivity and reduced turnover (Harter et al., 2002; Perrin, 2003; U.S. MSPB, 2008b). One government study found engaged employees used less sick leave, worked in agencies that produced better program results, and were less intent on leaving their current agency (U.S. MSPB, 2008b). In a relatively short time, employee engagement has "emerged as one of the most vital concepts underlying workforce motivation and productivity" (Gubman, 2004, p. 42).

Rewards

Rewards are an integral part of public sector productivity and improvement efforts (Holzer & Lee, 2004b). The motivating principles underlying effective reward systems are based on three work motivation theories: expectancy (Vroom, 1964), equity (Adams, 1965), and reinforcement (Skinner, 1953, 1969). Vroom's expectancy theory

(1964) suggests that individuals will be motivated to perform better if they believe improved performance is possible and that it will lead to valued rewards.

This means that a clear connection between behavior and rewards must be established in order to achieve the desired outcome (Lawler, 2000b, 2003; Rynes et al., 2005; Swiss, 2005). According to equity theory (Adams, 1965), employees assess their own work efforts and rewards compared to others and adjust their work behavior to reduce any perceived inequities in the workplace. Hence, reward systems must be implemented fairly and viewed as fair by employees in order to motivate the desired behavior (Berman, 1998; Berman et al., 2010; Lawler, 2000b, 2003; Swiss, 2005). Reinforcement theory (Skinner, 1953, 1969) suggests that behavior is a function of its consequences which means behavior tends to be repeated if it leads to a positive outcome and avoided if it leads to a negative outcome. For this reason, it's vital that reward systems consistently deliver the rewards (and sanctions) that are promised (Swiss, 2005).

To stimulate greater productivity, a reward system should offer different types of incentives in order to satisfy an increasingly diverse workforce (Lawler, 2000b). One key principle of motivation is that people are motivated by different wants, needs, and preferences and those needs vary over time (Berman, 2006; Berman et al., 2010; Cayer, 2004). In order to attract, motivate, and retain a diverse workforce, employers should give workers a choice in the type of rewards they receive (Lawler, 2000a). The best approach to take where incentives are concerned is to offer a wide range of options to accommodate as many people as possible and increase the potential range of motivational impact (Berman et al., 2010; Cayer, 2004).

Money is a powerful motivating tool in the workplace (Bartol & Locke, 2000; Berman et al., 2010; Gerhart & Rynes, 2003; Lawler, 1971, 2000a; Locke et al., 1980; Jenkins et al., 1998; Perry, 2003). Organizations have traditionally used financial incentives to improve performance and productivity (Perry, Mesch, & Paarlberg, 2006). But money isn't the only thing that motivates employees. People are motivated by a variety of factors that include both monetary and nonmonetary incentives (Lawler, 2000b). Berman (2006, p. 129) lists 29 "alternative rewards" that don't involve pay raises, bonuses, or promotions (e.g., choice of job assignment, conference travel, new office furniture, or time-off). Because public managers have less control over their budgets and more restrictive personnel practices, they should take full advantage of nonmonetary rewards (Berman, 2006; U.S. MSPB, 2006).

Quality of Work Life

Improving the quality of work life through family-friendly programs is one common method used to enhance work motivation (Rainey, 2009). Organizations have begun expanding their reward systems beyond traditional financial incentives to include "learning and development, challenging and satisfying work, work-life balance, and a supportive work environment" in the hopes of attracting, developing, and retaining a high-quality workforce (U.S. OPM, 2002, p. 6). Scholars and government experts recommend the use of family-friendly programs – namely, flexible work hours, child and elder care services, teleworking, and family leave programs – to help employees achieve greater work-life balance and help employers attract and retain valuable workers (Berman et al., 2010; Guy & Newman, 2005; Landy & Conte, 2010; Nigro et al., 2007; Roberts, 2004; U.S. GAO, 2003a; U.S. OPM, 2000, 2002). Studies show that family-friendly

program availability is related to improvements in productivity (Eaton, 2003; Facer & Wadsworth, 2008; Lynch, Eisenberger, & Armeli, 1999), performance (Gajendran & Harrison, 2007; Lynch et al., 1999), organizational commitment (Eaton, 2003), and work-family conflict (Facer & Wadsworth, 2008; Gajendran & Harrison, 2007; Shockley & Allen, 2007). Managing a diverse public workforce and offering family-friendly work arrangements "have become important factors in recruitment and retention strategies, as well as being significant considerations in efforts to increase productivity" (Nigro et al., 2007, p. 15).

Performance Management

Management practices have the capacity to motivate employees, influence productivity, and impact overall performance (Brewer, 2005; Cayer, 2004; Hall, 1994; Holzer & Lee, 2004b; Nigro et al., 2007; Rainey, 2009; U.S. MSPB, 2008a). Supervisors are critical to productivity (U.S. MSPB, 2008a) and play an important role in determining individual and organizational performance (Brewer, 2005, 2006; Cayer, 2004). "Supervisory management is an important determinant of high performance in federal agencies" (Brewer, 2006, p. 35). Several competencies are essential to effective supervision including: managing and allocating resources; providing opportunities for training and career development; establishing good working relationships with employees; keeping employees informed about matters affecting their work; planning, assigning, and prioritizing work; providing technical expertise; evaluating performance fairly and accurately; providing constructive feedback about job performance; recognizing and rewarding top performers; and taking appropriate steps to deal with poor performers (Berman, 2006; Cayer, 2004; Guy, 1992a, 2004; Landy & Conte, 2010).

Because public managers face additional challenges in the workplace, they "must work smarter to ensure productivity … [by] … establishing and nurturing productive work environments" (Guy, 1992b, p. 321).

Despite the importance of supervisory management, "effective supervision … remains elusive" in the public sector (U.S. MSPB, 2008a, p. ii). The federal government's human capital crisis has been developing for years and received much attention (Brewer, 2005, 2006; Lane & Wolf, 1990; Lewis, 1991; Liebowitz, 2004; U.S. GAO, 2000, 2002; U.S. MSPB, 2003; Volcker, 1989). Experts recognize poor supervisory performance as being part of the problem, making the federal human capital crisis even worse (Brewer, 2006; Light, 2002; NAPA, 2003; U.S. MSPB, 2003, 2008a; U.S. OPM, 2001; Volcker, 2003). Federal employees consistently report their supervisors as having good technical skills but poor management skills, with only marginal improvement in ratings of supervisory management over the last 20 years (U.S. MSPB, 2008a). Poor supervision is costly as it leads to decreased productivity and job performance, lower morale and work quality, greater absenteeism and turnover, difficulties retaining the best employees, and more grievances and conflicts in the workplace (NAPA, 2003, 2004b; U.S. MSPB, 1989; U.S. OPM, 2001).

Federal supervisors do an especially bad job of handling poor performers (U.S. MSPB, 1999; U.S. OPM, 1999). The federal government has a poor track record of dealing (or failing to deal effectively) with poor performers (Lee, Cayer, & Lan, 2006; U.S. GAO, 1990b, 2005a; U.S. MSPB, 1995, 1999, 2008a; U.S. OPM, 1999). One disturbing finding was that federal managers perceive that doing nothing about poor performance imposes little cost (U.S. MSPB, 1995). However, both theory and practice

suggest otherwise. Giving the same pay and rewards to top and poor performers creates a sense of inequity (Adams, 1965), which tends to demoralize and demotivate the best performers (Thompson & Rainey, 2003). Moreover, there's little incentive for employees to work more productively unless there are different consequences associated with different productivity levels (Skinner, 1969). Failure to deal effectively with even a small percentage of poor performers "can have a disproportionately large and negative effect on an organization" (U.S. MSPB, 1999, p. 7).

Perceived Fairness

Fair treatment is an important concept in work motivation theory and research (Pinder, 2008). "People like to be treated fairly in their exchanges with one another and develop norms concerning what is fair and what is unfair treatment" (Pinder, 2008, p. 311). Perceptions of fairness influence many key attitudes and behaviors in the workplace (Gilliland & Langdon, 1998; Landy & Conte, 2010; Pinder, 2008). Fair treatment can lead to increased trust in supervisors, organizational commitment, and job satisfaction (Cropanzano & Greenberg, 1997). Employee views about fair treatment also affect job performance, organizational citizenship, trust in the organization, and withdrawal behaviors such as absenteeism and turnover (Colquitt et al., 2001).

Employee reactions to organizational decisions depend not only on the outcome of the decision (i.e., receiving a reward or promotion), but also on the perceived fairness of the decision-making process (Folger & Greenberg, 1985; Greenberg, 1987a, 1987b, 1990, 1996) and on the interpersonal treatment employees receive throughout the process (Bies, 2001; Bies & Moeg, 1986; Colquitt et al., 2005). A perception of unfair treatment occurs when decisions violate a workers' sense of distributive, procedural, or

interactional justice (Colquitt et al., 2005). Thus, from a justice perspective, employees who feel they aren't treated fairly in the workplace have little reason to be more productive.

Organizational Culture

Organizational culture[8] plays a key role in determining productivity (Holzer & Lee, 2004b; Ott & Baksh, 2005). Culture refers to the shared beliefs, values, norms, and assumptions held by organizational members (Berman, 2003; Ott, 1989; Schein, 2004), and is known to influence employee behavior in the workplace (Kaufman, 1960; Schein, 1992). A productive work environment motivates and challenges employees to perform at their best (Guy, 2004). Important elements of organizational culture identified in the public sector include valuing employee opinions, treating people with respect, sharing information freely, having a flexible workplace, and promoting a spirit of teamwork and cooperation (Brewer, 2005, 2006; Brewer & Selden, 2000; DiIulio, 1994; Gore, 1993; Osborne & Gaebler, 1992; Rainey & Steinbauer, 1999). Organizational performance is higher in federal agencies with cultures that empower employees by valuing their input, taking their contributions seriously, and treating people with respect (Brewer & Selden, 2000). For years, scholars and government experts have commented on the need for and lack of organizational cultures within the federal government that promote high performance and accountability for results (Kettl et al., 1996; U.S. GAO, 2001b, 2003b, 2005b; Volcker, 1989). Overall, "productivity is enhanced when the work environment

[8] There is an ongoing debate about whether organizational culture and climate are different concepts. See Landy & Conte (2010) and Pinder (2008) for a discussion on this subject. For the purpose of this dissertation, I assume they are the same.

is supportive and nurturing, where employees feel they are valued and respected as an individual, and where their contributions are appreciated" (U.S. MSPB, 1993, p. xii).

To summarize, federal productivity is expected to be influenced by a number of factors that are all within management's realm of control. The literature suggests several links between work motivation factors and productivity which will be tested empirically in the next section. Specifically, this study investigates the following six hypotheses:

Hypothesis 1: Having adequate resources, sufficient employees, and necessary training to do a job well will promote greater productivity.

Hypothesis 2: A higher degree of employee engagement in their work is associated with higher levels of productivity.

Hypothesis 3: Offering employees a variety of rewards for better performance and enhancing their quality of work life through family-friendly programs will lead to increased productivity.

Hypothesis 4: Effective performance management – in terms of supervisory competence, performance evaluation, and handling of poor performers – will have a positive effect on productivity.

Hypothesis 5: Employee perceptions of fair treatment on the job regarding promotions, awards, training, performance appraisals, discipline, and job assignments, will have a positive impact on

productivity.

Hypothesis 6: Having a supportive organizational culture – characterized by sharing information freely, valuing employee opinions, a spirit of cooperation and teamwork, flexibility in accomplishing work, treating people with respect, employee participation in planning work, merit-based recognition and rewards, and satisfaction with recognition – will promote greater productivity.

Which factors significantly help or hinder federal productivity? Are all of these factors equally important or do some matter more than others? What areas need the greatest improvement? A look at the Merit Principles Survey of 2000 will help provide answers to these questions.

Data and Methods

The U.S. MSPB's Merit Principles Survey, conducted in spring 2000, asked federal employees a variety of questions about their jobs, supervisors, work motivation, performance management, rewards, quality of work life, turnover intentions, work environment, and productivity levels. Using a stratified random sample, U.S. MSPB surveyed 17,250 full-time permanent civilian employees from the federal workforce of over 1.5 million employees in 22 executive branch agencies (excluding the U.S. Postal Service and various intelligence agencies). A total of 6,958 respondents completed this survey for a 43 percent response rate. I restricted the sample to white-collar employees in the GS pay system and members of the Senior Executive Service, which decreased the

sample size to 5,958.[9] Missing values lowered the usable sample to 3,911.[10] All statistics were weighted using U.S. MSPB's sampling weights to make the data more representative of the overall white-collar federal workforce.

Dependent Variable

The Merit Principles Survey of 2000 provides several measures of productivity. Question 59 asked federal employees to rate the overall productivity of themselves, their work units, and their organizations on a 10-point scale. Answers ranged from 1 for "Not at all Productive" to 10 for "Extremely Productive." I created an indexed variable that combines all three dimensions of self, work unit, and organizational productivity to construct an overall perception of productivity (range = 3 to 30; mean = 23.64). The resulting index has factor loadings between .77 and .90 and yields a Cronbach's alpha reliability coefficient of .76.

Independent Variables

With the exception of individual attributes, most of the independent variables are from questions measured on 5-point Likert-type scales, with responses coded as 1 for "Strongly Disagree," 2 for "Disagree," 3 for "Neither Agree Nor Disagree," 4 for "Agree," and 5 for "Strongly Agree." For some independent variables, the survey asked several questions on similar topics, allowing for the development of more reliable measures of the concepts than would be possible using single questions. To develop

[9] My reduced sample eliminated 850 respondents including 683 blue-collar employees in the "wage grade" pay category and 167 employees in "other" pay categories.

[10] For all indexed independent variables, missing values were replaced with the mean for that index. Observations were not included if the respondent failed to answer two or more questions within an indexed variable.

these measures, I grouped the questions that best captured my theoretical concepts and then used principal components factor analysis to be sure all questions were measuring similar concepts. The Cronbach's alpha, which measures scale reliability from 0 to 1, is presented for each indexed variable. This study only includes indexed variables with a minimum alpha of .70 which is the threshold suggested by Nunnally (1978). Grouping of variables is consistent with previous research using U.S. MSPB survey data (e.g., Brewer, 2005, 2006; Brewer & Selden, 2000). Table 8 shows how the variables are operationalized and provides descriptive statistics for each.

Resources and training are measured by three questions that assess whether employees have the resources, sufficient number of employees, and training they need to do their job well. Six individual items are used to evaluate *employee engagement* by measuring interesting and meaningful work, pride in the workplace, clear expectations of job requirements, skill utilization, and mission contribution. All questions used 5-point Likert-type scales with responses ranging from strongly disagree to strongly agree, except for mission importance which was rated on a scale from 1 to 10 (no extent to very great extent). Items were included separately to distinguish their individual contributions to productivity.[11]

Two indexes were created to measure rewards and quality of work life. *Rewards linked to better performance* is a 4-item index (alpha = .77) that measures the connection between rewards and performance. On a scale of 1 to 5 (very unlikely to very likely), employees indicated how likely they were to receive various types of rewards – including

[11] Multiple regression analysis using an indexed variable for employee engagement yielded similar results. The decision to include the variables separately was solely to determine their relative importance.

more pay, a time-off reward, a non-pay reward, and informal recognition – if they performed better. *Family-friendly programs* is a 12-item index (alpha = .70) that measures the availability of various programs, such as flexible or compressed work schedules, part-time work, teleworking, and child care. On a scale of 0 to 1, responses were coded as 0 for "Not Available" and 1 for "Available."

Three indexes were created to measure performance management in the federal workplace. *Supervisory competence* (alpha = .93) combines six questions about the supervisor's management and technical skills, regard for subordinate's welfare, feedback on job performance, career development support, and employee satisfaction with their supervisor. *Performance evaluation* (alpha = .81) combines four items that assess whether performance standards are fair and linked to organizational goals, whether the performance appraisal system helps increase communications between employees and their supervisors, and whether the appraisal system motivates employees to do a better job. *Handling poor performers* is a 4-item index (alpha = .90) that measures the supervisor's effectiveness in dealing with poor performance and misconduct in the workplace. All questions used a 5-point Likert-type scale with responses ranging from strongly disagree to strongly agree.

Fair treatment on the job consists of a 6-item index (alpha = .86) that measures how fairly employees have been treated in the areas of promotions, awards, training, performance appraisals, discipline, and job assignments. Questions used a 5-point Likert-type scale with responses ranging from no extent to very great extent.

Organizational culture is an 8-item index (alpha = .88) that measures employee perceptions about their work environment in terms of sharing information freely, valuing

employee opinions, having a spirit of cooperation and teamwork, providing flexibility in performing work, being treated with respect, participating in long-range planning, basing recognition and rewards on merit, and satisfaction with recognition received. Questions used a 5-point Likert-type scale with responses ranging from strongly disagree to strongly agree.

I also control for a variety of *individual attributes* that may affect employee perceptions of federal productivity and interact with other independent variables. Respondent's age, length of federal service, and education are all measured in years. Employee pay grades range from 1 to 16 with GS employees coded as GS-1 to GS-15 and members of the Senior Executive Service (SES) coded as grade 16. Dummy variables were created to measure the remaining attributes. Gender was coded as 1 for males and 0 for females. Race was coded as 1 for whites and 0 for minorities. Supervisory status was coded as 1 for supervisors and 0 for nonsupervisors.

Regression Model

To test my hypotheses, I used ordinary least squares (OLS) regression and ordered logistic regression on my productivity index (range = 3 to 30). Multiple regression analysis is appropriate when the dependent variable is continuous and OLS assumptions are met, while ordered logit analysis is suitable for ordinal dependent variables. However, previous research suggests that OLS regression can also be used when an ordinal dependent variable approaches continuity (e.g., Alonso & Lewis, 2001; Brewer, 2005; Brewer & Selden, 2000; Dolan, 2000; Langbein & Lewis, 1998; Lewis, 1997, 1999, 2001; Lewis & Allee, 1992; Moynihan & Pandey, 2005, 2007a, 2007b; Pitts, 2009). Since the results from my ordered logit analysis (not shown) revealed no

meaningful changes and regression diagnostics indicated no significant methodological issues,[12] I focused my discussion on the OLS regression model because those results are more easily interpreted.

Empirical Findings

Descriptive Statistics

Table 8 presents descriptive statistics in the form of percentage response rates for most individual questions. In addition, the range, weighted mean, standard deviation, and factor analysis results are included for each indexed variable. Descriptive statistics allow managers to see how the federal workplace is viewed by employees. These statistics offer a direct comparison between what the literature says employees need to be productive and what federal employees say they receive from their work environment. Wherever sizeable gaps appear, managers should target those areas as needing the most improvement.

Overall perceptions of federal productivity were fairly high among the white-collar GS and SES employees in my study. On a 10-point scale, productivity ratings all had means above 7 out of 10. Federal employees rated their own productivity levels the highest (8.45 mean), followed by that of their work unit (7.90 mean), and their organization (7.34 mean). Although ratings were above average, there is still room for productivity improvement.

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[12] Bivariate regressions and a correlation matrix showed no evidence of problematic multicollinearity among independent variables.

The literature suggests that workers need resources and training to be productive. Yet employee assessments of their adequacy were mixed in these areas. While a majority of federal employees say they have the resources (62.2 percent) and training (55.1 percent) they need to do the job well, nearly one third feel that resources and training are lacking. Moreover, half of federal employees feel their work unit lacks a sufficient number of people to do its job, while only 38.8 percent report having enough people.

It is theorized that employees need to be fully engaged in their work to maximize productivity. If this is true, then the federal government appears to be well-positioned to encourage productivity. A majority of federal employees rate their work above average on all six engagement factors including interesting work (66.0 percent), meaningful work (77.6 percent), recommending government (50.9 percent), clear expectations (81.5 percent), skill utilization (63.3 percent), and mission contribution (7.65 mean on a 10-point scale).

Research indicates that workers need to see a connection between performance and rewards to be motivated by incentives. However, most federal employees report the link between various rewards and better performance to be virtually nonexistent. In exchange for better performance, 58.8 percent of federal employees report that informal recognition is the most likely result. By contrast, over half of federal employees state it is unlikely that they will receive more tangible rewards – in the form of more pay, time off, or a non-pay reward – if they perform better.

Studies on quality of work life emphasize the importance of giving employees more control over their work environment in order to help them achieve a healthy work-life balance. Between 61 and 89 percent of federal employees report having access to

flexible and compressed work schedules, sick leave for family care, leave sharing, and employee assistance programs. However, a majority of federal employees (67 to 91 percent) report not having access to other family-friendly programs, such as teleworking, job sharing, part-time employment, child and elder care, and commuter fare subsidies.

Research suggests that workers need competent supervisors with strong management and communication skills to be productive. However, federal employees rate their immediate supervisors poorly in these areas. A majority of federal employees feel their supervisor has good technical skills (61.3 percent) and looks out for the personal welfare of employees (56.3 percent), while less than half think their supervisor has good management skills (48.2 percent), keeps people informed about job performance (47.1), and encourages employee career development (41.8 percent). Overall, 58.8 percent of employees report being satisfied with their supervisor.

According to equity and justice theory, workers need a fair and accurate performance evaluation system to be productive. While half of federal employees agree that performance standards are fair (54.7 percent) and linked to organizational goals (52.1 percent), a majority do not believe that performance appraisals increase communications about the job with their supervisor (51.4 percent), and the largest majority report that the performance appraisal system fails to motivate better job performance (57.4 percent).

Scholars and government experts argue that poor performance must be dealt with effectively in order to motivate greater productivity. Unfortunately, half of federal employees report that supervisors fail to deal effectively with poor performers (49.6 percent), fail to take corrective actions when employees don’t meet performance standards (50.4 percent), and fail to take appropriate steps to deal with a poor performer

who cannot or will not improve (53.3 percent). In addition, one third of federal employees are equally divided on whether their supervisor deals effectively with misconduct on the job, with 35.2 percent agreeing and 35.4 percent disagreeing.

The literature suggests that workers need to feel they are treated fairly in order to be productive. Yet several areas are identified as being problematic. Employees report the highest degree of fair treatment (between 50 to 56 percent) in the areas of performance appraisals, job assignments, and discipline, while lower levels of fairness (between 38 to 40 percent) are perceived in the areas of training, awards, and promotions. Negatively speaking, these figures identify many employees who feel they are unfairly treated regarding promotions (42.2 percent), awards (33.4 percent), training (26.9 percent), job assignments and discipline (about 22 percent), and performance appraisals (18.0 percent).

Theory and research support the premise that workers are most productive when surrounded by a positive organizational culture. This is partly evident by a majority of federal employees who agree that information is shared freely, employee opinions seem to count, a spirit of cooperation and teamwork exists, employees have greater flexibility in accomplishing work, and people are treated with respect. However, 50.1 percent of federal employees say they are not allowed to participate in long-range planning for their work unit, 45.2 percent state that recognition and rewards are not based on merit, and 42.4 percent are dissatisfied with the amount of recognition received for their work.

Table 8. Descriptive Statistics for Federal Productivity

DEPENDENT VARIABLES:

Perceived Overall Productivity **(index range = 3 to 30; mean = 23.64; s.d. = 4.17)**	**Range**	**Mean**	**Std. Dev.**
On a 10-point scale, how would you rate the overall productivity of:			
a. Yourself	1 to 10	8.45	1.39
b. Your work unit	1 to 10	7.90	1.62
c. Your organization	1 to 10	7.34	1.98

FACTOR ANALYSIS: Factor loadings are between .77 and .90 with a Cronbach's alpha of .76.

INDEPENDENT VARIABLES:

Resources & Training	**Disagree**	**Neither**	**Agree**
I have the resources to do my job well.	26.0	11.8	62.2
My work unit has a sufficient number of employees to do its job.	49.9	10.7	38.8
I receive the training I need to perform my job.	27.0	17.9	55.1

Table 8 (continued)

INDEPENDENT VARIABLES:

Employee Engagement	**Disagree**	**Neither**	**Agree**
I am often bored with my job (reversed).	18.7	15.3	66.0
The work I do is meaningful to me.	10.0	12.4	77.6
I would recommend the Government as a place to work.	24.6	24.5	50.9
I know what is expected of me on the job.	9.7	8.8	81.5
My present job makes good use of my skills and abilities.	24.9	11.8	63.3

Mission Contribution:	**Range**	**Mean**	**Std. Dev.**
To what extent do you feel the work you personally perform contributes to the accomplishment of your agency's mission?	1 to 10	7.65	2.21

Rewards Linked to Better Performance (index range 1 to 5; mean = 2.67; s.d. = 1.07)	**Very or somewhat unlikely**	**Neither**	**Very or somewhat likely**
If you perform better in your present job, how likely is it that you will:			
a. Receive more pay	53.2	11.3	35.5
b. Receive a time-off award	63.6	13.2	23.2
c. Receive a non-pay reward	52.3	16.1	31.5
d. Receive informal recognition	28.8	12.4	58.8

FACTOR ANALYSIS: Factor loadings are between .75 and .84 with a Cronbach's alpha of .77.

Table 8 (continued)

INDEPENDENT VARIABLES:

Family-Friendly Programs (index range = 0 to 1; mean = 0.43; s.d. = 0.19)		**Not Available**	**Available**
Are the following programs available to you at work?			
a.	Flexible work schedule	26.7	73.3
b.	Compressed work schedule	38.1	61.9
c.	Opportunity to work part-time	74.2	25.8
d.	Opportunity for job sharing	89.8	10.2
e.	Opportunity to telework away from main work site	80.2	19.8
f.	Child care resource and referral services	76.5	23.5
g.	Elder care resource and referral services	91.4	8.6
h.	Onsite or nearby child care center	67.6	32.4
i.	Sick leave for family care, bereavement, or adoption	11.0	89.0
j.	Leave sharing	27.0	73.0
k.	Commuter fare subsidies	79.8	20.2
l.	Employee assistance programs	34.7	65.3

FACTOR ANALYSIS: Factor loadings are between .36 and .63 with a Cronbach's alpha of .70.

Table 8 (continued)

INDEPENDENT VARIABLES:

Employee Engagement (index range = 1 to 5; mean = 3.26; s.d. = 1.07)	**Disagree**	**Neither**	**Agree**
My supervisor has good management skills.	33.7	18.1	48.2
My supervisor has good technical skills.	21.2	17.5	61.3
My supervisor looks out for the personal welfare of work unit members.	25.7	18.0	56.3
My supervisor keeps me informed about how well I am doing.	30.5	22.4	47.1
My supervisor encourages my career development.	32.9	25.3	41.8
Overall, I am satisfied with my supervisor.	23.0	18.2	58.8

FACTOR ANALYSIS: Factor loadings are between .78 and .93 with a Cronbach's alpha of .93.

Table 8 (continued)

INDEPENDENT VARIABLES:

Performance Evaluation (index range = 1 to 5; mean = 2.86; s.d. = 0.90)	**Disagree**	**Neither**	**Agree**
The standards used to evaluate my performance are fair.	23.5	24.4	52.1
My performance standards are clearly linked to my organization's goals and objectives.	23.3	22.0	54.7
The performance appraisal system has helped increase communications about my job between my supervisor and me.	51.4	28.7	19.9
The performance appraisal system motivates me to do a better job.	57.4	23.2	19.4

FACTOR ANALYSIS: Factor loadings are between .74 and .83 with a Cronbach's alpha of .81.

Table 8 (continued)

INDEPENDENT VARIABLES:

Handling Poor Performers (index range = 1 to 5; mean = 2.60; s.d. = 1.04)	**Disagree**	**Neither**	**Agree**
My supervisor deals effectively with poor performers.	49.6	28.2	22.2
In my work unit, corrective actions are taken when employees don't meet performance standards.	50.4	23.5	26.0
In my work unit, steps are taken to deal with a poor performer who cannot or will not improve.	53.3	23.1	23.6
My supervisor deals effectively with misconduct on the job.	35.4	29.4	35.2

FACTOR ANALYSIS: Factor loadings are between .83 and .89 with a Cronbach's alpha of .90.

Table 8 (continued)

INDEPENDENT VARIABLES:

Fair Treatment on the Job **(index range = 1 to 5; mean = 3.22; s.d. = 0.95)**	**Little or no extent**	**Some extent**	**Considerable or very great extent**
In the past 2 years, to what extent do you believe you have been treated fairly regarding the following?			
a. Promotions	42.2	19.6	38.2
b. Awards	33.4	26.8	39.8
c. Training	26.9	32.6	40.5
d. Annual performance appraisals	18.0	25.5	56.5
e. Discipline	22.5	27.5	50.0
f. Job assignments	22.1	23.4	54.5

FACTOR ANALYSIS: Factor loadings are between .67 and .80 with a Cronbach's alpha of .86.

Table 8 (continued)

INDEPENDENT VARIABLES:

Organizational Culture (index range = 1 to 5; mean = 3.18; s.d. = 0.88)	**Disagree**	**Neither**	**Agree**
Information is shared freely in my work unit.	27.0	11.4	61.6
At the place I work, my opinions seem to count.	26.6	16.8	56.6
A spirit of cooperation and teamwork exists in my work unit.	26.9	17.1	56.0
I have more flexibility in how I accomplish my work.	25.2	22.0	52.8
I am treated with respect in my work unit.	14.7	12.7	72.6
Employees participate in developing long-range plans in my work unit.	50.1	19.4	30.5
Recognition and rewards are based on merit in my work unit.	45.2	19.9	34.9
I am satisfied with the recognition I receive for my work.	42.4	19.7	37.9

FACTOR ANALYSIS: Factor loadings are between .62 and .83 with a Cronbach's alpha of .88.

Note. Agreement response categories were combined as follows: Disagree = Disagree and Strongly Disagree; Neither = Neither Agree Nor Disagree; and Agree = Agree and Strongly Agree. Descriptive statistics were calculated using the U.S. MSPB sampling weight variable and figures are shown in percentages. Reduced sample includes General Schedule and Senior Executive Service employees only.

Regression Results

Table 9 shows the results of a multiple regression analysis predicting federal productivity. Most key variables included in this model are significant predictors of productivity at the .001 level. When all of the variables are combined, the model explains 39 percent of the variation in productivity. The data supports many of my hypotheses: four out of six hypotheses receive partial or full support and only two hypotheses are unsupported by these results. After controlling for all other factors specified in the model, federal productivity is greatly influenced by resources and training, employee engagement, performance evaluation, handling of poor performers, and organizational culture, while rewards, quality of work life, and fair treatment on the job have no significant impact.[13] Findings for each hypothesis are discussed below and beta weights[14] (i.e., standardized coefficients) are examined to determine the relative importance of each individual factor significantly affecting productivity.

The data provide mixed support for Hypothesis 1. Adequate resources and training have a positive and statistically significant effect on productivity ($p = .001$ and .01, respectively), while having a sufficient number of employees has no significant impact. According to the beta weights, having adequate resources (.072) is the most influential item in this group with an impact that is 2.4 times greater than that of training

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[13] Since this study focuses on productivity factors that management can control, results for individual attributes (e.g., age, gender, education, federal service, race, and supervisory status) are displayed in Table 2 but not discussed in the findings.

[14] Because unstandardized regression coefficients depend on the unit of measurement of the variables, they are unsuitable for determining the relative importance of individual variables within a model. Beta weights standardize all variables to z scores with a mean of zero and a variance of one. Thus, beta weights represent the number of standard deviations that the dependent variable will change when the independent variable changes by one standard deviation (or one unit), while holding all other variables constant. This allows for a meaningful comparison of independent variables that are measured on very different scales.

(.030). By contrast, the beta weight for having a sufficient number of employees is very weak (-.002) and fails to achieve statistical significance at the 95 percent confidence level.

Evidence supporting Hypothesis 2 is particularly strong, proving that a higher degree of employee engagement does lead to higher levels of productivity in the federal workplace. Coefficients for all six engagement factors have the predicted sign with statistical significance between .01 and .001 and some of the highest beta weights in the model. Performing work that contributes to the accomplishment of the agency's mission (i.e., mission contribution) proves to be the most influential variable in the entire model. The beta weight shows that productivity increases by .254 standard deviations with every one-point increase in mission contribution, holding all other variables constant. Within this group of engagement variables, the impact of mission contribution is 3.3 times stronger than having interesting (.077) or meaningful work (.075), 3.7 times stronger than recommending the government as a place to work (.069) or making good use of employee skills and abilities (.068), and 5.5 times stronger than knowing what's expected on the job (.046). Compared to other variables in the model, the impact of mission contribution on federal productivity is 1.6 times greater than handling of poor performers effectively (.155), 2.4 times greater than a supportive organizational culture (.105), 3.5 times greater than adequate resources (.072), 6.8 times greater than performance evaluation (.037), and 8.4 times greater than having enough training (.030).

There is little support for Hypothesis 3 which shows that giving employees performance-based rewards and enhancing their quality of work life through family-friendly programs does not lead to increased productivity. The coefficient on rewards is

not statistically significant and the sign is in the opposite direction of what was expected. One plausible explanation is that the link between performance and rewards is too weak to have any discernable effect on productivity. The coefficient for family-friendly programs is slightly more encouraging as it has the predicted sign but fails to achieve statistical significance. In this case, it's possible that the survey was ahead of its time since few family-friendly programs were available in the year 2000 when the survey was conducted.

Hypothesis 4 is partially supported by the data, suggesting that several areas of performance management influence greater productivity. Performance evaluation and dealing effectively with poor performers both exert a positive and statistically significant effect on productivity ($p = .01$ and .001, respectively), while supervisory competence has no additional impact of significance. The task of effectively handling of poor performers is the most influential performance management item and the second strongest predictor of federal productivity overall. The beta weight shows that productivity increases by .155 standard deviations with every one-point increase in handling poor performers, holding all other variables constant. Within the performance management group, the impact of handling poor performers is 4.2 times greater than that of performance evaluation (.037). Unexpectedly, the beta weight for supervisory competence is very weak (-.007), has the wrong sign, and lacks statistical significance. Compared to remaining variables in the model, the impact of handling poor performers effectively is 1.5 times greater than having a supportive organizational culture (.105), 2.0 times greater than having interesting (.077) or meaningful work (.075), 2.2 times greater than

recommending government (.069) or skill utilization (.068), 3.3 times greater than having clear expectations (.046), and 5.2 times greater than having enough training (.030).

Hypothesis 5 fails to receive any support from this data, indicating that perceptions of fair treatment on the job do not significantly influence federal productivity. The unstandardized coefficient for fair treatment (-.037) lacks statistical significance and has the opposite sign of what was expected. Despite the insignificant impact of fair treatment in this productivity model, managers should nevertheless recognize the broader significance of perceived fairness in the workplace and continue efforts to create an environment where people feel they are treated fairly.

Last, the data provide strong support for Hypothesis 6, demonstrating that positive perceptions of organizational culture do promote greater productivity. Altogether, the combination of sharing information freely, valuing employee opinions, exhibiting a spirit of cooperation and teamwork, granting flexibility in performing work, treating people with respect, allowing employee participation in planning work, providing merit-based recognition and rewards, and satisfying employees with recognition received for their work, has a positive and statistically significant effect on federal productivity ($p = .001$). According to the beta weight, productivity increases by .105 standard deviations with every one-point increase in organizational culture, holding all other variables constant. In terms of its relative impact on productivity when compared to other variables in the model, having a supportive organizational culture is the third strongest predictor of federal productivity, making it 1.3 to 2.3 times stronger than employee engagement factors (excluding mission contribution), 1.5 times stronger than having adequate

resources (.072), 2.8 times stronger than performance evaluation (.037), and 3.5 times stronger than having enough training (.030).

Table 9. Factors Affecting Federal Productivity

	Unstandardized Coefficient	t Statistic	Standard Error	Beta Wgts
RESOURCES & TRAINING:				
Adequate Resources	.257***	4.52	.057	.072
Sufficient Employees	-.007	-0.17	.044	-.002
Enough Training	.110*	1.97	.056	.030
EMPLOYEE ENGAGEMENT:				
Interesting Work	.272***	4.88	.056	.077
Meaningful Work	.308***	4.43	.070	.075
Recommend Government	.244***	4.49	.054	.069
Clear Expectations	.202**	2.91	.069	.046
Skill Utilization	.231***	3.85	.060	.068
Mission Contribution	.491***	18.71	.026	.254
REWARDS & QUALITY OF WORK LIFE:				
Rewards Linked to Better Performance	-.072	-1.10	.065	-.018
Family-Friendly Programs	.411	1.41	.291	.019
PERFORMANCE MANAGEMENT:				
Supervisory Competence	-.029	-0.38	.076	-.007
Performance Evaluation	.173*	2.00	.086	.037
Handling Poor Performers	.640***	9.16	.070	.155

Table 9 (continued)

	Unstandardized Coefficient	t Statistic	Standard Error	Beta Wgts
FAIRNESS:				
Fair Treatment on the Job	-.037	-0.46	.080	-.008
CULTURE:				
Organizational Culture	.500***	4.43	.113	.105
INDIVIDUAL ATTRIBUTES:				
Age	-.017	-0.33	.050	-.005
Male	-.903***	-7.78	.116	-.108
Education (years)	-.017	-0.44	.039	-.007
Federal Service (years)	.092**	2.46	.037	.038
White	-.247	-1.90	.130	-.025
Grade Level	-.169***	-6.64	.025	-.116
Supervisor	.129	0.84	.154	.012
R^2	.39			
Observations	3911			

Note. Regression model was performed using the U.S. MSPB sampling weight variable. Reduced sample includes General Schedule and Senior Executive Service employees only.
* Significant at .05; ** Significant at .01; *** Significant at .001

Conclusion

Findings from this study have clear implications for management. If federal agencies really want to improve productivity, they must ask themselves the following questions. Do employees have the resources and training they need to do the job well? Are managers doing all they can to fully engage employees in their work or are management practices causing employees to become disengaged at work? Does the performance appraisal system motivate greater productivity? Are managers handling poor performers effectively or are they demotivating employees by ignoring the problem? Have managers created a positive organizational culture that supports productivity or are they providing a culture where performance and productivity do not matter?

If managers want federal employees to perform at their best, they must support the employees' desire and capacity to work more productively (Guy, 2004; Hall, 1994). Ultimately, management is responsible for creating the environmental conditions that either facilitate or frustrate employee productivity (Guy, 2004; Hall, 1994; Holzer & Lee, 2004a). Based on the results of this study, it is clear that federal managers aren't giving employees everything they need to be productive in the workplace. This finding is consistent with previous research which suggests that American workers want to be productive but are hindered by repressive organizational environments and restrictive management practices (Hall, 1994).

What does this productivity model tell us in a government era of "do more with less"? This study directs managers to improve productivity by making the most of the human and financial resources available to them. It also provides encouraging evidence that managers have multiple opportunities to influence productivity in ways not

previously considered. Three of the strongest predictors of federal productivity are motivational factors that money cannot buy – namely, employee engagement, handling poor performers effectively, and organizational culture.

Employee engagement collectively emerges as the strongest predictor of federal productivity, with mission contribution representing the most important individual factor within this group. But engagement requires constant attention. Managers must continuously promote high levels of employee engagement by matching the right people with the right jobs in order to provide interesting and meaningful work and make better use of employee skills and abilities. Above all, managers should give top priority to emphasizing the importance of employee contributions to agency mission achievement as this is the single most influential factor affecting federal productivity.

Poor performance represents a big obstacle to productivity and how poor performers are handled is the second strongest predictor of federal productivity. Supervisors who fail to deal effectively with poor performance are the main reason why this obstacle is so difficult to overcome. Federal agencies must pay greater attention to the proper handling of poor performers which has a significant impact on employee productivity. Frontline supervisors play a central role in performance management due to their "primary responsibility for communicating performance expectations, monitoring and evaluating employee performance, providing feedback and counseling, and creating consequences for excellent and poor performance" (U.S. MSPB, 2008a, p. 29). While one might think that areas of good supervisory performance can potentially outweigh the effects of any poor supervisory performance, evidence suggests otherwise. U.S. MSPB (1982) found that "poor supervisory skills have an adverse effect on productivity, but

good supervisory skills have only a marginally positive affect" (p. 18). Although dealing with poor performers is a daunting task which can result in emotional wear and tear on the supervisors involved (Daley, 2008), the importance of dealing effectively with poor performers cannot be overstated. In the end, the long-term consequences of doing nothing about poor performers far outweigh any short-term costs of taking action.

This study confirms that organizational culture significantly affects federal productivity. It's imperative that federal agencies have an organizational culture that emphasizes performance and promotes productivity. To achieve this, managers must create a supportive work environment where information is shared freely, employee opinions are valued, a spirit of cooperation and teamwork exists, employees are given greater flexibility in performing work, people are treated with respect, employees are given opportunities to participate in long-range work planning, recognition and rewards are based on merit, and people are satisfied with the recognition they receive for their work – all of which stimulate greater productivity in the federal workplace.

The results of this study are limited by the use of subjective data to measure productivity. Ideally, scholars recommend the use of both objective and subjective measures whenever possible to capture all dimensions of organizational performance (Andrews, Boyne, & Walker, 2006). Nevertheless, the use of subjective data alone is not without precedent. The lack of objective data has prompted the use of subjective approaches in government studies of organizational effectiveness (Moynihan & Pandey, 2005), organizational performance (Brewer, 2005), and productivity (Langbein & Lewis, 1998). Although survey data is subject to bias and response error, researchers have found high correlation between subjective and objective measures of performance (Boyne &

Walker, 2002). One advantage of using self-reported assessments is that they provide vital information about employee attitudes, perceptions, and problems that define the federal workplace. Analyzing federal survey data offers valuable insights into productivity which cannot be obtained through objective measures and whose value is not diminished by the lack of objective data.

In conclusion, while there is still much to learn about motivating productive behavior, it's apparent that the full potential of employee productivity has yet to be realized in the federal government. By harnessing the power of employee perceptions, this study highlights factors within management's control that significantly impact employee productivity. When comparing what employees need to be productive with what the federal government is giving them, a sizeable gap appears. Exposing this gap as the true productivity problem, rather than placing the blame on federal employees, was a challenge worthy of pursuing in this study. Closing the gap to create a more productive work environment for all employees is the challenge facing every public manager today.

CHAPTER 5

CONCLUSIONS

Performance improvement has been a recurring theme of government reforms for nearly 30 years. So far, the U.S. Government has "downsized, restructured, reinvented, and contracted out government services and government organizations in the name of improved performance" (Ingraham, 2005, p. 390). Achieving high performance is an important goal for government because citizens have a right to demand that their tax dollars be spent effectively and efficiently and have a legitimate expectation that government programs will achieve the desired results. Performance is at the very heart of government accountability. While everyone agrees that performance matters in government, they don't always agree on the best way to improve it. My research analyzes employee attitudes and perceptions of their work environment in order to provide valuable insights to managers seeking practical ways of motivating better performance and greater productivity in the federal workplace.

My first study offers knowledge about factors that influence pay for performance belief. Prior research on pay for performance beliefs only considered a few explanatory variables (e.g., Folger & Konovsky, 1989; Perry & Pearce, 1983; St-Onge, 2000; Vest et al., 1995; Vest et al., 2000). This study is among the first to construct and test a more comprehensive, theory-based model to explain what influences employee belief in pay for performance. Initial findings suggest that belief in the link between pay and performance isn't strong enough among federal employees to support the adoption of pay for performance. Only 42 percent of employees agreed that better performance is likely

to lead to a cash award or pay increase, while 35 percent disagreed. Logit results indicate that federal employees are significantly more likely to believe in the promise of pay for performance if they feel they are treated fairly on all personnel matters, have positive perceptions of their organizational culture, consider their performance evaluation system to be fair and accurate, and think their immediate supervisor makes pay for performance decisions fairly. Judging by these results, the biggest obstacle to pay for performance belief is perceived unfairness which spreads across three significant areas (fair treatment on the job, performance evaluation system, and supervisory fairness in pay for performance decisions). Improving perceived fairness among workers should be a top priority among managers desiring to increase their likelihood of pay for performance belief.

My second study teaches several valuable lessons about implementing pay for performance. During my investigation of why government efforts have failed to successfully implement pay for performance, I discovered a new answer. Failure occurred largely due to a lack of readiness for organizational change. Although researchers from other disciplines recognize the importance of readiness in successfully implementing organizational change, the concept has been overlooked by public administration scholars and policymakers alike. This study introduces readiness as an important pre-implementation concept that can greatly impact the success or failure of organizational change initiatives such as pay for performance. As a result of examining 30 years of pay for performance research, I identify 11 criteria (or prerequisites) required for pay for performance success. I use my criteria for success to develop a scorecard that

measures pay for performance readiness in a manner that has never been attempted before.

According to my scorecard results, the federal government isn't ready to implement pay for performance. While some federal agencies are more ready than others, none have reached a level of readiness sufficient to ensure pay for performance success by my standards. The main obstacles to pay for performance success in the federal government include: a workforce that is more motivated by intrinsic rewards than by money; perceived unfairness in three key areas (pay for performance expectations, fair treatment on the job, and supervisory fairness in pay for performance decisions); supervisors who are not dealing effectively with poor performers; and organizations that do not ensure that employees are appropriately paid and rewarded for performance. Because pay for performance requires a whole host of elements to be successful, the federal government should consider its overall readiness status and the readiness of each federal agency before rushing to adopt pay for performance on a governmentwide basis. It's time for policymakers to recognize the need for readiness prior to implementing major organizational changes and realize the inherent danger of moving forward with pay for performance without having all of the critical elements in place as a strategy which is capable of doing more harm than good.

My third study illustrates ways that managers can promote greater productivity by focusing on their greatest asset – the employees. Although federal agencies are constantly trying to promote productivity with existing resources, the human side of productivity has largely been ignored. This study advocates improving productivity through human capital investment and better management of human resources. Results

from my multiple regression analysis show that federal productivity is greatly influenced by employee engagement, the effective handling of poor performers, a positive organizational culture, adequate resources and training, and fair and accurate performance evaluation. Employee engagement emerges as the strongest predictor of federal productivity, with mission contribution representing the most important individual factor in the group. Overall, these findings show that federal managers aren't giving employees everything they need to be their most productive in the workplace. For productivity to improve, managers need to promote high levels of employee engagement, deal effectively with poor performers, create and maintain a positive organizational culture, provide adequate resources and training, and provide a fair and accurate performance evaluation system.

What does this research teach us about motivating better performance and greater productivity in the federal workplace? From a management perspective, the overall message holds promise for the future. Despite all of the barriers to improving performance, implementing pay for performance, and increasing productivity, managers have the power to influence many workplace motivators.

- Managers should consistently demonstrate that performance matters when awarding bonuses, issuing promotions, conducting performance appraisals, and dealing with poor performers.
- Managers should do everything they can to improve employee perceptions of fairness because they affect so many important workplace attitudes and behaviors and have the power to derail management reforms such as pay for performance.

- Managers should use a total rewards approach that incorporates both intrinsic and extrinsic rewards in order to satisfy the needs of as many employees as possible.
- Managers should recognize that promising more pay for better performance may be the wrong approach to use with government employees who are more motivated by intrinsic rewards than by money.
- Managers should realize that while linking pay to performance can potentially improve performance, there are specific requirements that must be met in advance in order to achieve the desired end results. Moving too quickly to implement pay for performance can potentially do more harm than good.
- Managers should take full advantage of the motivational power of employee engagement by placing the right people in the right jobs, providing interesting and meaningful work, making better use of employee skills and abilities, and above all emphasizing the importance of employee contributions to achieving the agency's mission.

In conclusion, while there is still much to learn about motivating work behavior, it is clear that the potential for better performance and greater productivity has yet to be reached in the federal government. Utilizing survey data is one way to ensure that managers never run out of ideas on how to improve the federal government.

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