

Should I Stay or Should I Go: The Impact of Public Duty Motivation on Turnover Intentions*

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Abstract: Despite the expansion of public service motivation (PSM) research in recent years, only a few studies have linked PSM with public employees' turnover, and they have typically understood turnover as a dichotomous decision of staying versus leaving. Unlike previous research, we explore the relationship by taking into account various exit options. Utilizing data from the 2005 Merit Principles Survey, we classify public employees' exit strategies into four types—not leaving, retiring, moving to another federal agency, and resigning from federal service—and examine how an indirect measure of PSM influences which of these exit strategies they intend to follow. We employ the indirect measure due to data availability; following previous research, we name this measure public duty motivation. Our findings suggest that the impact of public duty motivation varies across intended exit strategies: it decreases the likelihood of public employees intending to retire, while it leads them to be more likely to intend to move to another job within the federal government. In contrast, it is not a significant predictor of public employees' intention to resign from federal service.

Keywords: public service motivation, public duty motivation, turnover intentions, exit strategies

* The authors wish to thank the editor and three anonymous reviewers for their helpful suggestions. The authors are also grateful to Dr. Nicole Esparza for her insightful comments on an earlier version of this manuscript.

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Manuscript received June 10, 2013; out for review June 24, 2013; review completed August 9; accepted August 12, 2013.

The Korean Journal of Policy Studies, Vol. 28, No. 2 (2013), pp. 1-24.

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INTRODUCTION

Although employee turnover has been a topic studied frequently in the private sector, it has been only a recent interest among public management scholars (Bertelli, 2007; Meier & Hicklin, 2008; Moynihan & Pandey, 2008). Employee turnover is in general believed to be detrimental to organizations (Finkelstein & Hambrick, 1990), as it adds costs for activities such as advertising, recruitment, and training (Abbasi & Hollman, 2000). Turnover of experienced employees also causes loss of institutional memory (Carley, 1992), and in the public sector this is linked to the loss of neutral competence (Haas & Wright, 1989; Lewis, 1991). Therefore, understanding determinants of employee turnover is essential to human resource management in the public sector in order to maintain effective government (Bertelli, 2007; Lee & Whitford, 2008).

Management research has suggested several factors as influencing employee turnover. For instance, job satisfaction has long been both theorized and empirically identified as a key determinant (Griffeth, Hom, & Gaertner, 2000; Mobley, Griffeth, Hand, & Meglino, 1979; Porter & Steers, 1973). In addition, scholars have argued that pay is an important factor determining turnover (DeConinck & Stilwell, 2004; Leonard, 1987; Wittmer, 1991). Turnover studies in the public sector have found significant relationships between these factors and employee turnover (Bertelli, 2007; Lewis, 1991).

However, relatively few turnover studies in the field of public management have explored the effect of public service motivation (PSM) on employee turnover. PSM is a distinct motivation of public employees that transcends simple self-interest and that differentiates public employees from private sector workers (Perry & Wise, 1990). With the development of the PSM perspective, a number of empirical studies over the last two decades have tested the validity of the theory and supported the premise that PSM exists (Houston, 2000, 2006). A subsequent premise is that PSM influences public employees' behaviors and attitudes (Perry, 2000; Perry & Hondeghem, 2008; Perry & Wise, 1990). However, how PSM does this is still underexamined (Bright, 2008), particularly with respect to turnover (for exceptions, see Bright, 2008; Naff & Crum, 1999; Steijn, 2008).

This study explores how public duty motivation, "an indirect measure of PSM" (Jung & Rainey, 2011: 29), is associated with public employees' intentions to leave via different exit strategies. Our primary explanatory variable was measured by a survey item from the 2005 Merit Principles Survey that asks public employees how important their duty as a public employee is in motivating them to do a good job. Previous research has suggested that this survey item is relevant to PSM, arguably being "an indirect measure of PSM" (Jung & Rainey, 2011, p. 29). However, previous studies

have also suggested that this item does not fully capture the multidimensionality of PSM; thus, previous research has referred to it as “public duty motivation” (Jung & Rainey, 2011) or used it as one of the measures to construct “public service-oriented motivation” (Park & Rainey, 2008). Following Jung and Rainey (2011), we refer to our primary explanatory variable as public duty motivation. Since public duty motivation can be understood as “one dimension of PSM” (Jung & Rainey, 2011, p. 30), this study develops hypotheses based on the PSM literature.

What distinguishes our study from others is that we take into account different turnover destinations. The few existing studies on the relationship between PSM and employee turnover have typically understood turnover as a dichotomous decision of leaving versus staying (e.g., Naff & Crum, 1999; Steijn, 2008). More generally, most turnover studies in a public sector context have not paid attention to the types of exit strategies public employees might take in leaving their current agency (Whitford & Lee, 2011). However, as Miller argued, “it is important to examine turnover by *contrasting homogeneous groups of employees*, based on their having experienced similar types of turnover” (1996, 24; emphasis added). Thus, we classify public employees’ exit strategies into four types—not leaving, retiring, moving to another job within the federal government, and resigning from federal service—and examine how public duty motivation influences which of these exit strategies they intend to follow. We analyze data from the 2005 Merit Principles Survey using logistic regression to assess the nature of these relationships.

The organization of this paper is as follows. In the following section, we review the PSM literature and, based on this review, we develop hypotheses about the relationship between public duty motivation and public employees’ turnover intentions. In addition, for a more robust examination of the impact of public duty motivation on turnover intentions, we briefly review other potential determinants of turnover intentions. Next, we describe our data source, sample, and methods. Then we present the results of our analysis, with the final section discussing the implications and limitations of the study.

LITERATURE REVIEW AND HYPOTHESES

Public Service Motivation and Turnover Intention

Perry and Wise, the initiators of PSM theory, define public service motivation as “an individual’s predisposition to respond to motives grounded primarily or uniquely in public institutions” (1990, p. 368). That is, some people are more attracted than others

to working in the public sector, and are more likely to enter and remain in the public sector (Bright, 2005; Christensen & Whiting, 2009; Kim, 2009; Perry, Hondeghem, & Wise, 2010; Wright & Christensen, 2010). Perry and Wise (1990) suggest three distinct types of motives that attract individuals to the public sector: rational, norm-based, and affective motives. Rational motives, reflecting an economic assumption about human beings, explain individuals' attraction to the public sector in terms of individual utility maximization. For instance, people work in the public sector when public service work yields high intrinsic utility such as excitement or reinforcement of self-importance (Perry & Wise, 1990). Next, individuals with norm-based motives work in the public sector for more normative or ethical reasons, for example, "a desire to serve the public interest" or promote social justice (Perry & Wise, 1990, p. 368). Finally, affective motives lead individuals to work in the public sector when they are emotionally convinced of the importance of public service. For example, an affective motive is involved if a person is motivated to work in the public sector by the "patriotism of benevolence" (Frederickson & Hart, 1985).

Following the development of PSM theory, Perry (1996) developed a tool for measuring the construct in order to facilitate research on the topic. He suggested a four-dimensional construct reflecting the following motivations: attraction to public policy making, commitment to the public interest, compassion, and self-sacrifice. As Perry (1996) pointed out, these four factors largely coincide with the tripartite framework of rational, norm-based, and affective motives originally suggested by Perry and Wise (1990). As PSM has received international scholarly attention, some scholars have argued for and suggested "a more universal measure [of PSM] that can be used globally" (Kim et al., 2013, p. 82; Kim & Vandenabeele, 2010).

The development of PSM theory and a multidimensional scale to measure PSM has stimulated scholars to empirically test the utility of this concept. Empirical studies have primarily aimed to verify the existence of PSM and explored what factors serve as significant determinants of PSM. For instance, using data from the General Social Survey, Houston (2000) examined the existence of PSM by looking at whether or not the motives that public workers value are different than those that private workers value. The findings suggested that public employees place a higher value on intrinsic rewards (e.g., the importance of the work) and a lower value on extrinsic rewards (e.g., high income, short working hours). In other words, public employees value different rewards than private employees, providing some support for the premise that PSM does in fact exist. He subsequently examined whether there are any differences among public, nonprofit, and private employees in terms of their involvement in charitable activities (Houston, 2006), with results indicating that public employees are more likely than private employees to engage in such activities as volunteering for charitable orga-

nizations and donating money or blood. These results are consistent with the premise that public workers are more “other oriented” than private employees, further supporting the validity of the PSM concept.

Other studies have tried to identify important antecedents of PSM. As significant determinants of PSM, the literature has suggested three factors: individual demographic characteristics, personal experiences, and organizational factors. Although the strength of the relationships is not well established, existing studies have suggested that PSM is correlated with some demographic factors such as gender, age, and education level (Bright, 2005; DeHart-Davis, Marlowe, & Pandey, 2006; Perry, 1997). Existing literature has also suggested that exposure to various experiences plays an important role in the development of PSM (Han & Lee, 2012; Perry, 1997; Perry, Brudney, Coursey, & Littlepage, 2008). For instance, Perry (1997) suggested that although different types of experiences have different impacts on the four dimensions of the PSM construct in terms of significance and direction, “an individual’s public service motivation develops from exposure to a variety of experiences, some associated with childhood, some associated with religion, and some associated with professional life” (p. 190). Finally, in addition to demographic characteristics and previous experiences, recent studies have emphasized the role of organizational factors as an influence on PSM (Houston, 2011; Moynihan & Pandey, 2007; Paarlberg & Lavigna, 2010; Park & Rainey, 2008; Wright 2007; Wright, Moynihan, & Pandey, 2011). For instance, Wright (2007) suggested that when public employees perceive the mission of their organization as more important, they see their work as more important and thus have higher work motivation. In addition, Moynihan and Pandey (2007) suggested that red tape and the length of organizational membership negatively influence PSM, while employee-friendly reforms and hierarchical authority have positive associations with PSM.

In contrast to research on the existence and antecedents of PSM, however, relatively few studies have investigated how PSM influences public employees’ attitudes and behaviors (Bright, 2008). Among them, even fewer studies have explored the relationship between PSM and turnover intentions (Wright & Pandey, 2008). The first empirical study that examined the relationship between PSM and turnover intentions, as far as we are aware, was carried out by Naff and Crum (1999). Using survey data obtained from a large sample of federal employees, they examined how PSM influences job satisfaction, performance, and turnover intentions. Logistic regression results suggested that PSM level has positive relationships with job satisfaction and performance and a negative association with turnover intentions. In other words, federal employees with high PSM are more likely to be satisfied with their jobs and perform better, and less likely to want to leave their jobs.

In contrast to Naff and Crum’s (1999) findings, however, a more recent study by

Bright (2008) suggested that PSM does not have a significant relationship with turnover intentions when person-organization (P-O) fit is considered. Bright (2008) found that P-O fit completely mediates the relationship between PSM and turnover intentions. Based on these findings, Bright (2008) argued the importance of developing favorable work environments in order to keep high PSM workers in the public sector. A recent study by Steijn (2008) suggested that PSM fit—“a special case of person-organization or person-job fit” that measures the degree to which public employees’ “needs for PSM are met by their organization” (p. 17)—is positively associated with public employees’ intentions to stay. However, while public employees who experience better PSM fit are more likely to intend to stay in their current job, the findings suggested that PSM itself is negatively associated with such intentions.

In contrast to the widespread assumption about the positive impact of PSM on public employee attitudes and behaviors (Perry & Wise, 1990; Perry, 2000), empirical studies on the relationship between PSM and turnover intentions, albeit not many, suggest inconsistent and mixed findings. According to PSM theory, high PSM employees are more likely to have positive attitudes about government employment, and thus are more likely to join and stay in the public sector. While Naff and Crum (1999) supported this premise, Bright (2008) suggested that PSM does not have a direct impact on public workers’ turnover intentions when P-O fit is taken into account. Furthermore, Steijn’s (2008) findings are opposite to the PSM premise, indicating that PSM decreases public employees’ intention to stay.

Observing mixed findings in the literature on the effects of PSM on turnover intention, we inquired further into this relationship by examining how public duty motivation influences public employees’ turnover intentions in terms of different exit strategies. Previous studies on the impact of PSM on turnover (or turnover intention) have typically understood turnover as a dichotomous decision of staying versus leaving (e.g., Bright, 2008; Naff & Crum, 1999; Steijn, 2008). However, when employees with different exit strategies are examined together as a single group, the results might not accurately indicate the impact of explanatory variables on turnover intentions. That is, one possible cause for the inconsistent findings on the relationship between PSM and turnover intention might be that different types of exit strategies were not taken into account. Thus, “it is important to examine turnover by contrasting homogeneous groups of employees, based on their having experienced similar types of turnover” (Miller, 1996, p. 24). By considering various types of exit strategies in the investigation of determinants of turnover intention, we could more accurately understand the effects of predictors on turnover intentions. A recent study by Whitford and Lee (2011) supported this argument by suggesting that voice and loyalty have different impacts on public employees’ turnover intentions depending on the type of turnover options.

Following Whitford and Lee (2011), we differentiate between four types of exit strategies available to federal employees—staying, retiring from federal service, moving to another job within the federal government, and resigning from federal service. Then we examine the relationships between public duty motivation and these four types of turnover intentions. Intention to stay was used as the reference group for comparison. We hypothesize that the impact of public duty motivation varies with the type of exit strategy. First, a primary motivation for public employees' retirement is "a desire to try something else before it [is] too late" (Hibbing, 1982, p. 71). Public employees may want to spend the rest of their lives doing something other than working, and thus they decide to retire from work. However, since public employees with higher public duty motivation may also have a desire to continue serving the public, the strength of this desire could easily make a difference in their retirement decisions, in that those with high public duty motivation could be less likely than others to retire from the public sector even when they are eligible to do so. Thus, our first hypothesis is as follows:

Hypothesis 1: Public employees with a higher degree of public duty motivation are less likely to intend to retire from federal service.

Next, public duty motivation is also expected to have a negative relationship with public employees' intentions to move to another federal agency. Public workers with high public duty motivation are expected to have a stronger desire to provide high-quality public service, such that they may be more likely to stay in the current job rather than moving to another federal agency. In terms of individual resources, employees are likely to be well equipped with the knowledge and skills necessary to perform their current job, while they may not be familiar with those required for a new job. In addition, public employees may often need to utilize networks with others to perform their job, and while they are likely to have well-established networks in their current organization, they may not have such networks in a new agency. Thus, employees' greater ability to serve the public and fulfill their public duty motivation by staying in a job for which they already have the necessary assets may be a disincentive to moving to another federal agency. Furthermore, employees with high PSM are more compatible with their organization than others (Bright, 2008), and thus they are expected to stay in their current organizations rather than leaving for another job in the federal government. Thus, the second hypothesis is as follows:

Hypothesis 2: Public employees with a higher degree of public duty motivation are less likely to intend to move to another job within the federal government.

Finally, public duty motivation is anticipated to be negatively associated with public employees' intention to resign from federal service. By definition, PSM emphasizes "motives, such as civic duty and compassion, that are commonly associated with public organizations" (Perry, Hondeghem, & Wise, 2010, p. 682). Thus, according to PSM theory, "PSM is important in attraction-selection-retention processes," and empirical research has also suggested that people with high PSM are more likely than others to enter and remain in the public sector (Perry et al., 2010, p. 687; Bright, 2005; Kim, 2009; Wright & Christensen, 2010). Furthermore, public employees who possess high PSM tend to appreciate government employment and better tolerate conditions in bureaucratic organizations than others (Scott & Pandey, 2005). Thus, public workers with high public duty motivation are expected to be less likely to intend to resign from the public sector. The third hypothesis is as follows:

Hypothesis 3: Public employees with a higher degree of public duty motivation are less likely to intend to resign from federal service.

Job Attitudes and Turnover Intention

For a more robust examination of the impact of public service motivation on public employees' turnover intentions, it is important to take into account other variables that have been regarded as important predictors of employee turnover. Below, we discuss the likely effects of three facets of employees' satisfaction with their work situation.

First, job satisfaction has long been theorized as a key determinant of employee turnover (Mobley et al., 1979; Williams & Hazer, 1986). In addition, numerous empirical studies have consistently found that job satisfaction has a significant negative association with employee turnover (Arnold & Feldman, 1982; Griffeth et al., 2000; Porter & Steers, 1973; Tett & Meyer, 1993). A meta-analysis of this research confirmed the negative relationship between job satisfaction and turnover (Cotton & Tuttle, 1986; see also Hellman, 1997). We expect that this negative relationship between job satisfaction and turnover intentions is maintained regardless of turnover exit strategy.

Next, a dominant perspective in motivation studies has argued that workers, regardless of sector, are motivated by extrinsic rewards such as monetary incentives when making decisions pertaining to turnover (Price, 1977; Wittmer, 1991). Empirical studies have supported the premise that pay is an "inarguably important" factor determining employee turnover (Bertelli, 2007, p. 245; Leonard, 1987; Lewis, 1991; Zenger, 1992). For instance, Lewis (1991) reported that "the opportunity for a higher paying job had been an important consideration in their quitting" for 66 percent of Senior Executive Service members who resigned from their jobs (p. 147). This

research suggests that employees' turnover decisions are related to issues of distributive justice in their organizations. Distributive justice in this context refers to "the perceived fairness of the amounts of compensation employees receive" (Folger & Konovsky, 1989, p. 115). When employees believe that the rewards they receive are not fair compared to what they have accomplished or to the rewards given to other employees in similar jobs, they tend to be dissatisfied with their pay (DeConinck & Stilwell, 2004; Konovsky, Folger, & Cropanzano, 1987). This dissatisfaction is, in turn, positively related to employee turnover (Bertelli, 2007; DeConinck & Stilwell, 2004). Thus, pay is expected to be an important consideration regardless of the type of exit strategy intended: when public employees are satisfied with their pay, they should be more likely to stay in their current agency rather than moving to another agency or retiring or resigning from federal service.

A final important consideration pertinent to employee turnover is related to the issue of procedural justice. Procedural justice is defined as "the perceived fairness of the means used to determine [compensation] amounts" (Folger & Konovsky, 1989, p. 115). Studies in political science have suggested that procedural justice is "closely related to the evaluation of system or institutional characteristics" (Folger & Konovsky, 1989, p. 115). In short, procedural justice is about fair process within a system. With the enactment of the Government Performance and Results Act (1993), federal agencies are required to adopt performance management practices (Heinrich, 2002) that involve "the systematic evaluation of the performance of public employees, [and establish] a clear link between rewards and employee performance" (Lee & Jimenez, 2011, p. 168). Thus, from the perspective of public employees, a performance management system determines the rewards they receive for their performance. Thus, independent of the overall effectiveness of a performance management system, what matters for the employees under this system is whether or not it is administered fairly; that is, their performance is evaluated objectively and rewards are based on their performance. Their sense of procedural justice, reflected in their satisfaction with the performance management system in their agency, is expected to influence their turnover intentions. Research in the public sector provides some support for this expectation, suggesting that employee perception of procedural justice in their organization is a significant predictor of turnover intentions (Choi, 2011).

Unlike job and pay satisfaction, however, the impact of satisfaction with the performance management system may differ depending on the type of exit strategy intended by the employee. It is reasonable to expect that public employees are less likely to intend to move to another agency or to resign from federal service when they are more satisfied with the system in their current agency. On the other hand, the perception of a fair process for assessing and rewarding performance in their agency is unlikely to be

a factor that would keep them from retirement. As discussed earlier, a strong driving force for employee retirement is “a desire to try something else before it [is] too late” (Hibbing, 1982, p.71). Public employees would be unlikely to forgo this opportunity just because they have positive perceptions of their agency’s procedural justice (or, for the purpose of this study, its performance management system). Thus, we expect that satisfaction with the performance management system decreases public employees’ intention to resign or move to another federal agency, but does not influence their retirement intention.

METHODS

Data Source and Sample

To examine the hypotheses, we employed data from the 2005 Merit Principles Survey. This survey was conducted by the U.S. Merit Systems Protection Board (MSPB), and the sample was randomly selected from “the 1.8 million full-time permanent members of the Federal workforce” (MSPB, 2005, p. i). Among the 74,000 randomly selected federal employees, 36,926 responded to the survey, resulting in a response rate of about 50 percent.

Sample statistics indicate that the percent of male employees (59.1 percent) was higher than that of female employees (40.9 percent). The average age of respondents was 49 years, and the average level of education was a bachelor’s degree. The majority of employees were white (73.4 percent). Finally, 53.7 percent of the respondents were in a non-supervisory position, while 46.3 percent had supervisory status.

Measures

Turnover Intention

Public employees’ intentions regarding the different exit strategies were measured with two survey questions. In the 2005 Merit Principles Survey, respondents were asked, “How likely is it that you will leave your agency in the next 12 months?” Responses were originally measured on a five-point Likert-type scale (from 1 for “very likely” to 5 for “very unlikely”). We classified responses of “very likely” and “somewhat likely” as having turnover intentions, and responses of “very unlikely” and “somewhat unlikely” as not having turnover intentions. The responses of “neither likely nor unlikely” and “don’t know/can’t judge” were excluded from the analysis, since

they did not provide useful information regarding the respondents' intentions. Thus, out of the 36,926 responses, the total number of responses that remained useful was 27,858 (75.4 percent); of those, 20,538 (73.7 percent) were classified as not having intention to leave and 7,320 (26.3 percent) as having turnover intentions.

In addition to the question above, respondents were also asked, "If you plan to leave your present job, would you be . . . retiring from federal service, resigning from federal service, moving to another job within the federal government, or not sure?" Responses of "not sure"—1,124 out of the 27,858 responses (4 percent)—were excluded from the analysis. Of the remaining 26,734 responses, 3,003 (11.2 percent) indicated an intention to retire from federal service, 2,611 (9.8 percent) indicated an intention to move to another job within the federal government, and 582 (2.2 percent) indicated an intention to resign from federal service.

Public Duty Motivation

The measure for public duty motivation was based on the responses to a survey item that asked how important his/her duty as a public employee is in motivating the employee to do a good job. Considering that the core of PSM theory lies in the assumption that public employees have "an ethic to serve the public" (Kim, 2009, p. 840; Rainey & Steinbauer, 1999), this survey item appears to address some aspect of PSM (Jung & Rainey 2011). However, a single item is not sufficient to fully capture the multidimensional facets of PSM (Jung & Rainey, 2011; Perry, 1996). Perry's (1996) multidimensional measure of PSM has been widely used in PSM research (Brewer, Selden, & Facer, 2000; Kim, 2009; Moynihan & Pandey, 2007; Naff & Crum, 1999; Perry, 1997; Taylor, 2008). With a multidimensional measure of PSM being widely used in PSM research, previous research that used the survey item employed in this study has referred to it as "public duty motivation" (Jung & Rainey, 2011) or included it as a measure of "public service-oriented motivation" (Park & Rainey, 2008). Thus, following a previous study (Jung & Rainey, 2011), we identified this item as relevant to but distinct from PSM and referred to it as public duty motivation. The item was measured by a five-point Likert-type scale with 1 as "very unimportant" and 5 as "very important."

Control Variables

As control variables, we included three facets of employee job attitudes (i.e., job satisfaction, pay satisfaction, and performance management system satisfaction) and individual demographic characteristics. Regarding job attitudes, first, the measure of

job satisfaction was constructed from three survey items by computing the mean value of the responses to these items. The items, measured on a five-point Likert-type scale with 1 as “strongly disagree” and 5 as “strongly agree,” are as follows: “My opinions count at work,” “My job makes good use of my skills and abilities,” and “In general, I am satisfied with my job.” Cronbach’s alpha for the scale was 0.83.

Pay satisfaction was measured with the responses to the single survey item “Overall, I am satisfied with my pay.” These responses were measured with a five-point Likert-type scale, ranging from “strongly disagree” to “strongly agree.” In addition, seven survey items were used to measure public employees’ satisfaction with the performance management system in their agencies. These items, measured by a five-point Likert-type scale with 1 as “strongly disagree” and 5 as “strongly agree,” are as follows: “The standards used to appraise my performance are appropriate,” “I understand what I must do to receive a high performance rating,” “I am satisfied with my organization’s performance appraisal system,” “Objective measures are used to evaluate my performance,” “I understand how my pay relates to my job performance,” “My organization takes steps to ensure that employees are appropriately paid and rewarded,” and “If I perform well, it is likely I will receive a cash reward or pay increase.” The variable was calculated as the mean value of the responses to the seven items, and Cronbach’s alpha for the scale was 0.87.

In addition, we included demographic variables in the models: supervisory status, gender, age, ethnicity, and education level. Supervisory status was measured as a binary variable by categorizing the responses to the question, “What is your supervisory status?” According to the Merit Principles Survey instructions, while supervisors, managers, and executives all have official supervisory responsibilities, non-supervisors and team leaders do not. Thus, responses of “non-supervisor” and “team leader” were coded as 0 (non-supervisory status) and responses of “supervisor,” “manager,” and “executive” were coded as 1 (supervisory status). Regarding gender, males were coded as 0 and females as 1. Likewise, ethnicity was coded as 0 for whites and 1 for all others. Age was measured as a continuous variable using the survey question, “What is your age?” Finally, education level was measured with 1 for high school, GED, or equivalent, 2 for associate’s degree, 3 for bachelor’s degree, 4 for master’s degree, and 5 for doctorate or equivalent.

Model Estimation

Since the dependent variable is categorical, we used logistic regression to analyze these relationships, as it provides a very robust method for analyzing categorical dependent variables (Agresti, 2007). Specifically, since the dependent variable is

multi-categorical, without any order to the categories, we used multinomial logistic regression.

A major methodological concern when using survey data collected from individuals nested in different agencies is intragroup correlation: that is, responses from the same agency are more likely to be similar than those from different agencies (Lee & Jimenez, 2011). Thus, individual responses can no longer be assumed to be independent. Intragroup correlation causes underestimation of standard errors, and thereby increases the chance of a type I error (Campbell & Grimshaw, 1998). To address this concern, we clustered the responses by agencies. Clustering by agencies serves to capture unobserved agency-specific variance effects (Bertelli & Grose, 2007). Clustering automatically uses Huber-White Sandwich estimators, and thereby produces heteroskedasticity-robust standard errors (Lee & Jimenez, 2011).

RESULTS

Table 1 provides descriptive statistics for and correlations among the variables examined in our study. The correlation analysis suggests that for the different exit strategies, public duty motivation is positively correlated with public employees' intentions to stay, while it is negatively correlated with their intentions to resign from the federal service. Job satisfaction, pay satisfaction, and performance management system satisfaction are also positively correlated with intentions to stay, while they are negatively correlated with intentions to leave.

It is important to note further that the correlations between these variables are less than the threshold value of 0.7, suggesting that none of the explanatory and control variables are so highly correlated with each other as to cause a problem of multicollinearity. However, since multicollinearity can still be a methodological concern even when relatively low correlation coefficients are observed (Studenmund, 2006), we tested for multicollinearity more formally using variance inflation factors (VIF). This process indicated that all variables have a VIF less than 2.5, confirming that our data do not suffer from multicollinearity.

Table 2 provides odds ratios from the multinomial logistic regression models predicting public employees' turnover intentions using different exit strategies.¹ Public

1. We ran another multinomial logistic regression including the midpoint responses (i.e., those who answered "neither likely nor unlikely" to the question asking about turnover intention) as "having turnover intentions." The results were in general the same as those presented here. The only difference was that in the model with the midpoint responses included, public

Table 1. Descriptive Statistics and Correlations

Variable	Mean	S.D.	1	2	3	4	5
1. Intention to stay	.737	.440					
2. Intention to retire	.112	.316					
3. Intention to move to another federal agency	.098	.297					
4. Intention to resign from federal service	.022	.146					
5. Public duty motivation	4.369	.716	.024*	-.012	.009	-.042*	
6. Job satisfaction	3.715	.899	.303*	-.061*	-.253*	-.139*	.145*
7. Pay satisfaction	3.574	1.049	.159*	-.005	-.148*	-.086*	.081*
8. Performance management system satisfaction	3.394	.829	.192*	-.032*	-.159*	-.096*	.131*
9. Supervisory status	.463	.499	.016*	.071*	-.064*	-.036*	.055*
10. Gender	.469	.492	.015*	-.052*	.045*	-.020*	.026*
11. Age	49.069	8.756	-.119*	.361*	-.124*	-.097*	.060*
12. Ethnicity	.267	.442	-.043*	-.029*	.089*	-.006	.068*
13. Education level	2.887	1.226	-.008	-.026*	-.003	.060*	-.023*
Variable	6	7	8	9	10	11	12
6. Job satisfaction							
7. Pay satisfaction	.384*						
8. Performance management system satisfaction	.631*	.444*					
9. Supervisory status	.192*	.126*	.116*				
10. Gender	-.026*	.006	.008	-.140*			
11. Age	.032*	.023*	.022*	.164*	-.104*		
12. Ethnicity	-.055*	-.081*	-.001	-.081*	.143*	-.091*	
13. Education level	.29*	.053*	.018*	.177*	-.167*	.141*	-.108*

Note: * $p < .05$

employees with no intention to leave their agencies were used as the reference group, such that results are interpreted in relation to this group. The odds ratios can be interpreted as the change in the likelihood of a dependent variable when an independent variable changes by one standard deviation. An odds ratio greater than 1 indicates that an increase in an independent variable leads to an increase in the likelihood of the dependent variable, while an odds ratio less than 1 indicates a decrease in the likelihood of the dependent variable. If the odds ratio is 1, then changes in the independent variable do not have any impact on the likelihood of the dependent variable.

Model 1 reports the likelihood of public employees intending to retire from federal

duty motivation had a significant negative association with public employees' intention to resign from federal government. Since exclusion of these responses better captures the distinction between employees with and without turnover intentions, we focus on the results of the analysis with these responses omitted.

Table 2. Multinomial Logistic Regression Estimates: Influence of Public Duty Motivation on Turnover Intentions with Different Exit Strategies

	Model 1: Intention to Retire		Model 2: Intention to Move to Another Federal Agency		Model 3: Intention to Resign from Federal Service	
	Odds ratio	Robust S.E.	Odds ratio	Robust S.E.	Odds ratio	Robust S.E.
Explanatory Variables						
Public duty motivation	.911	.041*	1.194	.032***	.916	.057
Job satisfaction	.615	.043***	.411	.041***	.369	.068***
Pay satisfaction	1.050	.029	.816	.028***	.768	.049***
Performance management system satisfaction	.986	.044	.989	.049	.924	.087
Control Variables						
Supervisory status	1.723	.053***	1.044	.064	.989	.096
Gender	.891	.072	1.156	.063*	.738	.105**
Age	1.241	.006***	.962	.004***	.924	.005***
Ethnicity	.945	.069	1.514	.062***	.952	.118
Education level	.814	.031***	1.068	.036	1.559	.057***
Log-likelihood	-14012.559					
Wald Chi-square	5665.689***					
Pseudo R-square	.196					
N	23170					

Note: reference group = no intention to leave; * $p < .05$, ** $p < .01$, *** $p < .001$

service versus staying in their current agencies. As anticipated, public duty motivation has a significant impact on public employees' intentions to retire. Specifically, one standard deviation increase in public duty motivation decreases public employees' intentions to retire by 9 percent. Thus, Hypothesis 1, that public employees are less likely to intend to retire from federal service when they have a higher degree of public duty motivation, is supported. In addition, job satisfaction decreases the likelihood of public employees intending to retire. However, neither pay satisfaction nor performance management system satisfaction has a statistically significant impact on the likelihood of public workers' intentions to retire. Finally, every demographic control variable except gender and ethnicity has a significant relationship with public employees' intentions to retire. For instance, a federal employee in a supervisory status is about 70 percent more likely to intend to retire from federal service than an employee in a non-supervisory status. In addition, having a higher level of education decreases the likelihood of a public employee intending to retire. Not surprisingly, age is positively associated with public workers' intentions to retire.

Model 2 provides the likelihood estimates for public employees' intentions to

move to another job within the federal government. Contrary to our expectation, public duty motivation increases the likelihood of public workers intending to move to another federal agency. Specifically, one standard deviation increase in public duty motivation leads to 19 percent increase in the odds of public employees intending to move to another job within the federal government. Thus, Hypothesis 2 is not supported. One possible explanation for this finding might be that public employees who possess high public duty motivation have a stronger desire for opportunities to be engaged in various types of public service so that they can serve a broader range of citizens. Another reason might be that public employees with high public duty motivation are more sensitive than others regarding the social usefulness of their job. If public employees with high public duty motivation perceive that their current job is not socially very useful, they might be more likely than others to move to another federal agency that could satisfy their prosocial orientation.

Next, job satisfaction and pay satisfaction have the anticipated negative effects on public workers' intention to move within the federal government. Specifically, a one standard deviation increase in job satisfaction and in pay satisfaction reduces public employees' intentions to move to another federal agency by about 59 percent and 18 percent, respectively. Performance management system satisfaction, however, does not have any statistically significant impact on public employees' intentions to move within the federal government. Finally, all demographic control variables except supervisory status and education level are significant predictors. Older employees are less likely to move to another job within the federal government, while female employees and employees from minority groups are more likely to do so.

Model 3 provides results for public workers' intentions to resign from federal service. First, unlike our expectation, the findings suggest that public duty motivation is not a significant determinant of public employees' intentions to resign from federal service: thus, Hypothesis 3 is not supported. One possible explanation might be that quitting a federal job is a big decision in an individual's life and career path, and thus personal considerations and factors play a significant enough role that public duty motivation does not come into play. Next, job satisfaction and pay satisfaction reduce the odds of public workers intending to resign from federal service by about 63 percent and 23 percent, respectively. In contrast, performance management system satisfaction does not influence public workers' intentions to resign. Finally, gender, age and education level have significant relationships with public employees' intention to resign from federal service. Female employees and older employees are less likely to intend to resign, while those with higher education are more likely to have such intentions.

In sum, findings from the multinomial logistic regression suggest that the impact of public duty motivation varies with the type of exit strategy: while public duty motivation

decreases the odds of public employees intending to retire from federal service, it increases the likelihood of them intending to move to another job within the federal government. Unlike its impact on intentions to retire or move to another federal agency, however, public duty motivation is not a significant predictor of public employees' intentions to resign from federal service.

DISCUSSION AND CONCLUSION

The purpose of this study was to examine the impact of public duty motivation on public employees' turnover intentions with different exit strategies. Although traditional studies on PSM have focused on the existence and antecedents of PSM, there have recently been studies whose primary concern was to understand how PSM influences public employees' attitudes and behaviors (e.g., Bright, 2008; Naff & Crum, 1999). Our study contributes to this line of research by attempting to better understand the relationship between public duty motivation and public employees' turnover intentions. We extend prior research on this topic by examining the relevance of public employees' public duty motivation to intentions regarding different exit strategies. Our findings support the theoretical argument that PSM matters in understanding public employees' attitudes: public duty motivation, arguably "an indirect measure of PSM" (Jung & Rainey, 2011, p. 29), influences public employees' turnover intentions. Yet, the direction and strength of its impact vary depending on the intended exit strategies.

By suggesting the importance of considering different exit strategies, our study also contributes to turnover research in the field of public management. Employee turnover has been studied only recently in the public sector, and most research has explored who leaves versus who stays, but not who goes where (for an exception, see Whitford & Lee, 2011). However, as Miller (1996) argued and our study supports, examining employee turnover with no consideration of various exit strategies can produce misleading results about the relationship between a predictor and public employees' intentions to leave.

Our study also has practical implications for employee management in the public sector, suggesting that since PSM influences public employees' attitudes, it should be an important consideration in employee management processes. Public managers might develop management tools to maintain or promote PSM among public employees. Hiring people with high PSM certainly helps public organizations to accomplish their goals in terms of serving the public. However, studies also suggest that PSM has a significantly negative association with tenure (Moynihan & Pandey, 2007), which implies that public employees' PSM decreases when their workplace does not support it. Thus, the role of public managers is critical to promoting public employees' PSM.

For instance, public managers, as leaders of their agencies, might exert “value-based leadership,” clarifying and emphasizing the organizational goal of serving the public interest (Avolio & Gardner, 2005). Public managers might also use public service values for employee appraisal (Paarlberg, Perry, & Hondeghem, 2008). Empowerment is another way to promote PSM among public employees: by giving public employees a chance to “operate in a way that is consistent with their conception of public service,” empowerment positively influences public employees’ PSM (Moynihan & Pandey, 2007, p. 43), thereby decreasing turnover intentions. In sum, by utilizing various employee management mechanisms, public managers can promote PSM in public employees, keep them from leaving the public sector, and thereby help government to achieve effective public service.

Employee management in terms of promoting PSM can also influence organizational performance. Studies on employee turnover suggest that it has a negative impact on organizational performance by causing a loss of institutional memory (Carley, 1992; Shaw, 2011). Therefore, by reducing public employees’ intentions to leave, specifically in this study intentions to retire, PSM prevents loss of institutional memory and thereby contributes to the competent performance of public organizations. In addition, intrinsically motivated employees are less likely to behave opportunistically and more likely act for the benefit of the organization. Thus, cultivating PSM contributes to organizational performance by reducing the likelihood of moral hazard behaviors among public employees (Moynihan, 2010).

We close by noting limitations of our study and suggesting directions for future research. First, while this study has aimed to contribute to the PSM literature, our measure of public duty motivation in terms of an employee’s duty as a public employee is only an indirect measure of PSM (Jung & Rainey, 2011) and does not capture the multidimensional nature of PSM (Perry, 1996). This kind of limitation is not unusual when using existing secondary data. In addition, given that the main assumption of PSM theory is a public employee with “an ethic to serve the public” (Kim, 2009, p. 840), our measure appears a relevant measure of PSM (Jung & Rainey, 2011). However, a single measure is not enough to fully address various dimensions of PSM, and thus, following a previous study (Jung & Rainey, 2011), we referred to it as public duty motivation. Future studies which examine the impact of PSM on public employees’ attitudes and behaviors should measure PSM using multidimensional scales such as developed by Perry (1996).

Second, our study focuses on federal employees to examine the impact of public duty motivation on public employees’ turnover intentions. However, federal employees might not represent the whole public employees. Employees in state and local governments might have different attitudes than federal workers. Thus, future research on the

impact of PSM needs to explore the attitudes of state and local employees.

Finally, our research addresses not actual turnover but turnover intentions. Turnover intentions are a good predictor of actual turnover (Ajzen, 1991; Cho & Lewis, 2012; Hendrix, Robbins, Miller, & Summers, 1998; Mobley, 1977), and thus studying turnover intentions should provide useful insights for understanding the impact of PSM on public employees' attitudes and for better human resource management in the public sector. However, as the word "predictor" implies, behavioral intention is distinct from actual behavior, and thus extending the implications of turnover intentions research to actual turnover requires caution (Cho & Lewis, 2012). Therefore, future research should deal not only with turnover intentions but also with actual turnover.

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