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Research Article

For Those Who Care: The Effect of Public Service Motivation on Sector Selection

Abstract: *Public service motivation (PSM) theory suggests that the alignment of values may explain sorting into public service work. Evidence suggests that people with high PSM cluster in government and nonprofit organizations. However, reliance on cross-sectional data leaves open the question of whether observed patterns are the result of public and nonprofit organizations attracting and selecting high-PSM people or cultivating PSM through socialization within the sector. Using longitudinal data, this article analyzes the relationship between motivational bases, such as PSM, and sorting into the public, for-profit, and nonprofit sectors. The results indicate that PSM-related values, measured before labor market entry, predict the sector a person will select for employment. Moreover, the effect on sector selection does not operate through some commonly cited alternative predictor of sector employment, such as college completion. Rather, PSM predicts sorting into college majors in a manner consistent with sector sorting in the labor market.*

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Evidence for Practice

- Workers enter public and nonprofit organizations with significantly different motivations than workers in for-profit organizations.
- Managers of public and nonprofit organizations should align tasks and performance rewards with the prosocial and public interest values held by workers entering their organizations.
- Ensuring task and reward alignment may be particularly important for early-career civil servants.

Since Perry and Wise (1990) articulated formal propositions about the nature of public service motivation (PSM) in order to move beyond the limitations of rational choice theory when examining public workers, scholarship on PSM has proliferated (for reviews, see Koehler and Rainey 2008; Ritz, Brewer, and Neumann 2016; Vandenabeele, Brewer, and Ritz 2014; Wright and Grant 2010). Public administration scholars have long argued that the values and motivations of public sector workers differ from those of their private sector counterparts, and these differences carry important implications for researchers and practitioners (Kelman 1987; Rainey 1982). Public workers, from street-level bureaucrats such as teachers and police officers to career civil servants in federal agencies, shape the effectiveness of public organizations in implementing policies and providing quality public services. Thus, identifying sectoral differences in sources of worker motivation has been a central question for scholars seeking to build a better understanding of optimal management practices in the public sector (Behn 1995).

The PSM concept provides a useful theoretical framework for examining worker motivational

bases that are more commonly observed in the public sector and their implications for public worker performance and management practices. Generally, PSM theory argues that workers in the public sector can be motivated by a range of factors, some normative (e.g., commitment to public service, prosocial values, professional norms) and some extrinsic (e.g., prestige, attraction to policy making) (Perry 2000; Perry, Hondeghem, and Wise 2010; Perry and Wise 1990; Vandenabeele, Brewer, and Ritz 2014). Indeed, early PSM research empirically established descriptive differences between public and private sector workers in values and preferences (e.g., Brewer 2003; Crewson 1997; Frank and Lewis 2004; Houston 2006; Lewis and Frank 2002; Naff and Crum 1999). Recent scholarship on PSM suggests that PSM is associated with higher performance (Andersen, Heinesen, and Pedersen 2014) and that aligning tasks to fit workers' motivational bases in the public sector can improve performance (Bellé 2013, 2014), underscoring the importance of sectoral differences in worker motivation for improving management practices in public organizations.

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Despite the progress in PSM research, much of the extant literature testing the propositions derived from PSM theory employs cross-sectional data to test for descriptive differences in motivations and values between workers in the public and private sectors. The early emphasis on measurement testing and reliance on cross-sectional data has left key questions about the direction of the relationship between PSM and public service work unanswered and has led some to call for increased use of longitudinal data in research on PSM (Bozeman and Su 2015; Ritz, Brewer, and Neumann 2016; Vandenabeele, Brewer, and Ritz 2014; Wright and Grant 2010). On the one hand, individuals with prosocial values aligned with the needs and missions of public organizations may seek employment in the public sector; this is often referred to as the attraction-selection hypothesis (Pandey and Stazyk 2008). On the other hand, simply entering the public sector may expose individuals to values, patterns of behavior, and organizational cultures that increase their likelihood of reporting a public service ethos; this is often referred to as the adaptation-socialization hypothesis (Moynihan and Pandey 2007). In the case of the former, the focus for improving performance in public organizations lies in targeting these values in recruitment and retention and aligning tasks with visible impact on organizational goals, while the latter suggests that training programs and organizational culture may be the levers for ensuring a motivated public workforce.

Using longitudinal data from a nationally representative cohort of high school seniors, I examine the relationship between PSM-related values and selection into the public, nonprofit, and private for-profit sectors. Moreover, I compare the influence of PSM-related values on sector sorting against other potential motivating values, such as extrinsic professional goals, family considerations, and pecuniary motivators. Additionally, I investigate a variety of potential mechanisms, such as graduating from college or starting a family, through which PSM-related values may affect sector choice among workers. I refer to PSM-related values to call attention to the use of items that, I argue, resemble established measures of PSM but are not established PSM scales. I follow Park and Rainey (2008) and Vogel and Kroll (2016) in making this distinction between PSM-related values and PSM.

I demonstrate that PSM-related values have a positive, significant effect on the likelihood that a person will enter the public or nonprofit sector. The direct effects of PSM-related values on sector choice cannot be accounted for by some commonly cited potential mediators, such as graduating from college or starting a family. Instead, PSM-related values drive career and sector-related decisions throughout the job choice pipeline. That is, PSM-related values affect sorting into college majors that are more closely aligned with occupations in specific sectors.

The results of this study make a variety of empirical and theoretical contributions to the study of PSM in particular and public management research more generally. First, the study provides strong empirical evidence that workers with higher PSM-related values self-sort into the public and nonprofit sectors. Using longitudinal data and a measure of values in participants' senior year of high school avoids many of the confounding problems in prior research (e.g., contamination through exposure

to the public sector, limited generalizability) and confirms the selection-attraction hypothesis. Second, the results demonstrate that PSM influences sector selection independently of some alternative predictors, such as educational attainment or having a family. Moreover, the results suggest that PSM influences decisions that affect sector placement at early points in the career pipeline, such as deciding on a major in college. This suggests that PSM plays a persistent role in job choice even before exposure to the norms and conditions of work in the public and nonprofit sectors. Third, the positive, significant relationship between PSM-related values measured in late adolescence and early-career decisions in young adulthood provides some evidence that PSM may be a "trait-like" characteristic rather than a temporary state, consistent with recent evidence that personality traits and some dimensions of PSM are correlated (Van Witteloostuijn, Esteve, and Boyne 2017).

Background and Literature Review

Understanding the source of motivation for workers in public organizations has long been an important question in public management scholarship (e.g., Behn 1995). The base of motivation that individual workers draw on in the labor market influences performance both directly (Andersen, Heinesen, and Pedersen 2014; Bellé 2013, 2014) and indirectly, through job satisfaction and turnover (Brewer and Selden 1998, 2000; Kim 2005; Kjeldsen and Andersen 2013; Norris 2003). The centrality of workers' bases of motivation to both individual and organizational performance takes on heightened importance in the provision of public services, where administrators must balance often-conflicting values of efficiency and accountability to the public (Rosenbloom 1983). Further, scholars have noted that administrators of regulatory public agencies exercise legal authority over allowable activities of entire markets of private firms, making both the nature of their jobs and their influence on society fundamentally different from administrators of private firms (e.g., Allison 1986; Bozeman 1988; Bozeman and Bretschneider 1994; Meier and O'Toole 2008; Perry and Rainey 1988).

Scholars of public administration have long recognized the accountability issues inherent in discretion exercised by public servants in the performance of their duties (see, e.g., the Friedrich-Finer debate in the 1930s and 1940s, discussed in Jackson 2009). Divergent conceptions of the base of motivation of public servants lay at the center of policy prescriptions for ensuring accountability to the public while maximizing efficiency. Theoretical models of public organizations that are built on public servants being more interested in extrinsic rewards view public officials as budget maximizers who are likely to satisfice or engage in rent-seeking behavior (e.g., Niskanen 1968). Reforms prescribed by such models aim to curb rents through competition for resources, set performance standards, and, importantly, encourage linking workers' pay to desired outputs in order to improve performance (Frey, Homberg, and Osterloh 2013; Gruening 2001; Hood 1995; Hood and Peters 2004; Miller and Moe 1983). Assuming that public servants hold the same values as their peers in the private sector, self-interested pursuit of extrinsic rewards, such as wealth or professional status, makes discretion a problem to be mitigated and guided primarily through financial and professional rewards.

Reacting to a developing crisis of confidence and trust in public institutions, Perry and Wise (1990) argue that rational choice theory, and the implied principal-agent problem facing public sector organizations, discounts prosocial motives for entry into public service and offer public service motivation (PSM) theory as an alternative framework for studying motivation in the public and nonprofit sectors. PSM describes motivations grounded primarily or uniquely in public institutions, particularly regarding serving the public and contributing to activities that benefit others (Perry 1996, 1997; Perry and Hondeghem 2008). The distinction has important implications for managing public organizations. Intrinsic motivations aligned with prosocial values suggest reforms that emphasize deference to the professional judgment of public officials and structuring tasks with a clear connection to larger organizational missions as a more effective means to increase performance in public organizations (Pandey and Stazyk 2008).

A large and growing body of empirical literature supports the proposition that people who enter the public sector respond more directly to prosocial values than those who enter the private sector. For instance, research comparing employees in the private and public sectors has found that public sector workers place less value on extrinsic rewards, such as working fewer hours and higher pay, and more value on intrinsic rewards, such as having meaningful work, than their private sector counterparts (Brewer 2003; Brewer, Selden, and Facer 2000; Crewson 1997; Houston 2000; Rainey 1982). In addition, within the public sector, evidence suggests that those who report higher levels of PSM are more satisfied with their jobs (Brewer and Selden 1998; Kim 2005; Kjeldsen and Andersen 2013). Empirical evidence also suggests that public sector workers are more likely to engage in prosocial behaviors, such as volunteering, participating in civic clubs and organizations, and giving blood (Ertas 2014; Houston 2006; Lee 2012). Importantly, cross-national comparisons suggest that the interaction of preferences for extrinsic and intrinsic rewards and work experiences predict job satisfaction and engagement at work (Norris 2003). Moreover, evidence suggests PSM and PSM-related values correspond with better individual and organizational performance (Andersen, Heinesen, and Pedersen 2014; Bellé 2013; Brewer and Selden 2000; Park and Rainey 2008). The importance of aligning individual values and organizational environment for public workers' engagement, satisfaction, and performance highlights the importance of understanding the motivation that drives workers into different sectors of the economy to better inform management of the public sector workforce.

The weight of evidence provided by prior research has been derived using cross-sectional data sets examining differences of means between workers already employed in the public and private sectors. The reliance on cross-sectional data prevents researchers from disentangling the direction of the relationship between PSM and selection into work providing public service (Vandenabeele, Brewer, and Ritz 2014; Wright and Grant 2010). Several recent studies provide some notable exceptions. Christensen and Wright (2011) collected survey data from students in their first year of law school at two top law schools. Using an abridged set of questions to measure the students' PSM, they presented descriptions of legal positions that varied on sector (public, private, nonprofit) and degree of service to public interests within sectors. They found

that students exhibiting more PSM were more likely to report a willingness to accept a position that emphasizes public service, regardless of sector (see also Vandenabeele 2008, using a sample of graduate students). Similarly, Wright and Christenson (2010) used data from the American Bar Association and found that a higher proportion of lawyers who reported attraction to the legal field to serve the public worked in the public sector both initially and over the longer term, but the relationship was only statistically significant over the long run.

Carpenter, Doverspike, and Miguel (2012) used a sample of business and management students and a similar method to Wright and Grant (2010). They also found a significant correlation between PSM and attraction to public sector organizations among a sample of students before their entry into the labor market (see also Clerkin and Cogburn 2012, who found a similar correlation between reported sector preference and PSM using a sample of undergraduates). Finally, Lewis and Ng (2013) used data from two waves of large-scale surveys of Canadian college students to investigate the sector preferences and work values of GLBTQ students prior to entry into the labor market. The authors provide mixed evidence about PSM and sector preference. For instance, they found a strong relationship between PSM and nonprofit work; however, they found that extrinsic factors such as job security and benefits, had a larger effect on preferring the public sector than PSM. While much of the evidence suggests a positive association between PSM and selection into a service-oriented sector (e.g., public or nonprofit), Kjeldsen and Jacobsen (2013) examined the sector sorting patterns of Danish physiotherapy students and found no significant relationship between pre-labor market PSM and initial sector. Instead, they found that PSM declined less among physiotherapists who entered the public sector, suggesting evidence of within-sector socialization.

The literature on the directional relationship between PSM and sector selection has some important limitations. First, many of these studies examine survey-reported sector preference, not actual labor market behavior. While the evidence is instructive, there is a strong possibility that social desirability bias may be driving some of the observed relationships. Second, most of the studies use samples of a subset of the population (e.g., graduate students, students in a professional program, students in an undergraduate course) and the results have limited generalizability. Finally, studies that directly observe employment (e.g., Kjeldsen and Jacobsen 2013; Wright and Christensen 2010; Wright, Hassan, and Christensen 2017) examine the outcomes of students in professional schools (law school and physiotherapy, respectively). Entering a professional school associated with careers in service-providing fields reflects early-career (and occasionally midcareer) decisions that may bias estimates of the relationship between PSM (and PSM-related values) and sector choice.

While these studies provide some evidence of a relationship between PSM and attraction to organizations with a public service orientation, the samples are not generalizable. Further, survey-reported intention to join a type of organization provides less insight than observed labor market decisions. The current study makes several contributions to our understanding of motivation and labor market decisions. First, the study is the first to empirically

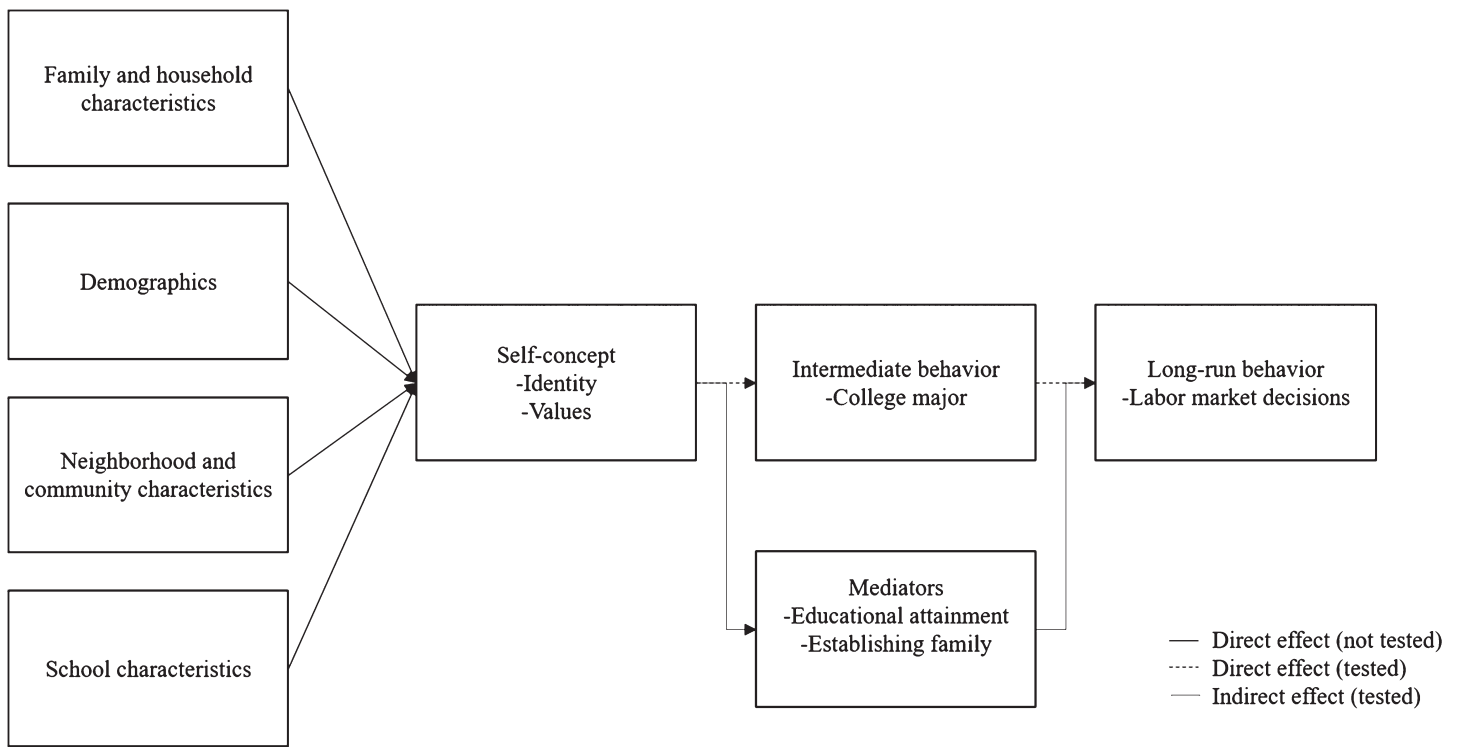


Figure 1 Theoretical Relationship between Base of Motivation and Labor Market Decisions

test the relationship between PSM-related values and selection into the public and nonprofit sectors using panel data from a nationally representative sample. Moreover, the study is among the first to empirically test the relationship between individual-level motivation before entry into the workforce and sector chosen upon entry. Controlling for observed differences in student background and household characteristics, ability, and measures of a student's base of motivation before entry into the workforce, the study establishes the causal direction of PSM-related values and sector sorting in the workforce.

Finally, the availability of a rich set of measures of motivation allows for the comparison of PSM-related values with other potential motivations for entering public service work. As scholars in a variety of disciplines have noted, people may have multiple motivations influencing labor market decisions, and without controlling for alternative motivations for entering the public sector, the relative importance of intrinsic motivations, such as PSM, and extrinsic motivations, such as monetary gain, cannot be measured (e.g., Delfgaauw and Dur 2007, 2008; Dur and Zoutenbier 2014; Perry and Vandenabeele 2015). The current study tests PSM-related values against alternative bases of motivation to examine the relative importance of PSM-related values in sector sorting. Additionally, the study investigates a variety of potentially mediating mechanisms through which motivational values may affect sector selection.

Theoretical Framework

The study expands on the theoretical model of PSM in Perry (2000) to explore more explicitly the potential role of PSM in influencing decisions when selecting a career.

Figure 1 depicts the theoretical relationship between PSM and behavioral outcomes. As figure 1 indicates, an individual's family

background, resources at home, community, and previous school experiences shape the individual's self-concept. The individual's self-concept contains elements of identity and values that influence the extent to which behaviors respond to extrinsic or intrinsic motivations. The combination of identity and values forms the base of motivation that an individual draws upon when making career-related decisions regarding what to study in college and which sector of the economy will receive his or her labor. The current study seeks to empirically test the direct and indirect relationships marked by the dashed and dotted lines.

As prior research has shown, workers in the public sector hold more prosocial values, leading to a motivational base tied to public service and placing more value in intrinsic motivators in their jobs, such as carrying out meaningful work, than extrinsic motivators, such as pay bonuses. Theory and previous empirical findings suggest several testable hypotheses relevant to the current study.

Hypothesis 1: High school seniors with high PSM will be more likely to enter the public and nonprofit sectors.

Of course, between the senior year of high school and labor market entry, there are a variety of intermediary decisions that may explain the direct effect of PSM on sector sorting. For instance, research on cross sections of employees in both sectors shows that college education is a strong correlate of sector of employment (Bright 2008). People with PSM might be more likely to attend and complete college. Thus, PSM may simply increase educational attainment, and education might be the factor that explains sector sorting.

Hypothesis 2a: High school seniors with high PSM will be more likely to attend college.

Hypothesis 2b: High school seniors with high PSM will be more likely to complete college.

Similarly, PSM values may lead people to place a greater emphasis on starting a family. Indeed, if PSM captures, even in part, prosocial values, it might not be surprising for PSM to jointly motivate sector choice and starting a family of one's own. After marrying or having children, the structured scheduling common in the public and nonprofit sectors, particularly in street-level and support positions, may lead those with families to prefer public and nonprofit sector employment. In this case, PSM would appear to be driving a preference for public and nonprofit employment. However, this preference would be due to an extrinsic factor, such as scheduling, rather than an alignment of institutional values with individual workers' values.

Hypothesis 2c: High school seniors with high PSM will be more likely to start a family.

On the other hand, some intermediary decisions might signal an employment sector preference prior to entering the workforce. For instance, some college majors, such as those in the social sciences and public affairs, are more closely aligned with public and nonprofit sector work. Other majors, such as business, are more closely related to private sector work. Consequently, to the extent that PSM captures an individual's disposition toward public service more broadly, PSM should influence college major decisions in a similar way to labor market decisions.

Hypothesis 2d: High school students with high PSM will be more likely to complete a major aligned with public and nonprofit sector work, such as the social sciences or public affairs.

Data

Data to test these hypotheses derived from PSM theory come from the Education Longitudinal Study (ELS) of 2002. The ELS contains data from a nationally representative sample of approximately 16,000 high school students who were sophomores in the spring of 2002. Important for the purposes of this study, the ELS follows the same cohort of students into college and the workforce and includes data on students' occupations in 2012, 10 years after the base year. Moreover, the ELS surveys students on a variety of topics, including a set of items designed to measure their social values that may motivate behavior. Five of these items resemble items used by Perry (1996) and Kim et al. (2013) to measure PSM.¹ The ELS also provides rich data on students' schools, coursework, academic ability, household characteristics, and demographics. The analytic sample includes 8,180 students with nonmissing information on all relevant variables for this study. I describe the data in more detail next.²

Dependent Variables

I measure sector using a categorical variable with three mutually exclusive categories: public, private nonprofit (from here on, nonprofit), and private for-profit (from here on, private).³ In the 2012 wave of data collection, ELS participants are asked about the sector of their job. The ELS item classifies sector using six categories: private nonprofit, private for-profit, local government, state government, federal government civilian occupations, and

military occupations. I group all government positions, including military, into the public sector.⁴

While PSM might influence sector sorting, the effect of PSM may operate through a variety of mediating factors. For instance, people with high PSM may be more likely to graduate from college, and college graduates may systematically sort into different sectors of the economy. I investigate college graduation, family life, and college major as potential explanations for the observed relationship between PSM and sector choice. I measure college graduation using a binary indicator equal to one if the respondent reports having a four-year degree or more in 2012 and zero otherwise.⁵ Again using the 2012 wave of data, I measure family life using an indicator for whether respondents have at least one child and an indicator for whether respondents have ever been married.

Finally, I measure college major as the major respondents report in the 2006 survey. I use a seven-category variable to capture major that includes science, technology, engineering, and mathematics (STEM) majors; business majors; social science majors; education majors; public affairs majors; health majors; and all other majors.⁶ This categorical variable was constructed using the Classification of Instructional Programs codes used by the National Center for Education Statistics to identify and define college majors.

Independent Variables

The primary independent variable is the values that motivate labor market decisions and behavior. I investigate the effects of four sets of motivating values: PSM-related values, professional, family, and extrinsic. The ELS includes 18 items asking students to evaluate the importance of a variety of life circumstances. For instance, an item may ask a student how important it is to marry the right person, help others in the community, or be an expert in his or her field of work. Students rate the items using a three-point scale: not important, somewhat important, or very important. Students responded to these surveys during their senior years of high school, prior to substantive interactions with the labor market. I conduct a principal component analysis on the full set of these items on social values and identify three latent factors that explain the variation in responses to some of the items.⁷ After identifying the latent factors that correspond with responses to the observed items, I conduct confirmatory factor analysis and establish that the identified items serve as reliable measures of the latent factors of interest to the study.⁸

I measure these latent factors using three indices standardized to a mean of 0 and standard deviation of 1. These three factors capture sets of related values that provide base of motivation in labor market decisions: PSM, extrinsic professional rewards, and family. Table A1 in the Supporting Information online displays each factor, the underlying items that measure the factor, and the relative weight of each item. Three items identified as correlated with a common latent factor resemble three of the items from the initial Perry (1996) scale and three items from the 16-item scale more recently developed by Kim et al. (2013). The items cover three dimensions of PSM proposed in the larger scale confirmed by Kim et al. (2013). While the items differ from the abbreviated five-item instruments used to measure PSM in prior research (Alonso and Lewis 2001; Brewer, Selden, and Facer 2000; Christensen and Wright 2011; Kim 2005;

Table 1 Comparison of ELS Three-Item Measure of PSM-Related Values and Other Measures

ELS (2002)	Perry (1996)	Kim et al. (2013)
Importance of helping others in the community	I unselfishly contribute to my community [commitment to public interest/civic duty]	Considering the welfare of others is very important [compassion]
...working to correct inequalities	If any group does not share in the prosperity of our society, then we are all worse off [social justice]*	I think equal opportunities for citizens are very important [commitment to public values]
...being an active/informed citizen	I believe everyone has a moral commitment to civic affairs no matter how busy they are [civic duty]*	I believe in putting civic duty before self [self-sacrifice]

Note: Dimension of PSM in square brackets.

*Perry (1996) found the initial factors civic duty and social justice to be highly correlated with commitment to the public interest. Consequently, Perry excluded these items from the final scale.

Pandey, Wright, and Moynihan 2008; Wright and Pandey 2008), Wright, Christensen, and Pandey (2013) show that abbreviated measures of PSM are highly correlated with more generalized measures of prosocial motivations and altruism. The items used for the analysis in the current study contain measures of prosocial motivation (e.g., helping others), which are also commonly used in PSM measures, as well as items that resemble items from longer PSM scales (e.g., correcting inequalities and being an informed citizens).

Table 1 displays a comparison of the PSM-related items in the ELS used in this study and the three comparable items from the Perry (1996) and Kim et al. (2013) scales, as well as the theoretical dimension of PSM measured by the item. The ELS items provide good coverage of the dimensions first proposed by Perry and later confirmed by Kim et al. (covering three of the five confirmed in Kim et al.). Moreover, the items include a three-point scale, allowing responses to capture both affirmation and disagreement with each value. In addition, responses to the items vary evenly between “not important” and “very important,” suggesting that students’ responses likely did not conform systematically to an implicit normative signal in the items.⁹ Since exploratory factor analysis of all 18 social values items identified a factor captured by items that closely resemble items commonly used to measure PSM, an indexed measure of these items represents an arguably reliable measure of PSM-related values.¹⁰

As Perry and Wise (1990) note, occupational prestige and stability may serve as potential extrinsic motivations for entering public service alongside pecuniary rewards. The extrinsic professional rewards index measures this motivational base by including items related to pursuit of job stability, educational prestige, and gaining recognition in an occupation. In addition to indices of these three factors, I measure pecuniary motivation using an item that asks students how important making a lot of money is to them. I create two binary indicators. One takes on a value of one if the student indicates making a lot of money is very important to them and zero otherwise. The other takes on a value of one if the student indicates making a lot of money is not important. In addition to measures of motivating values, I include a rich set of controls for students’ demographics (gender, race), socioeconomic status (parents’ education, household income), and academic ability (high school grade-point average [GPA], tenth-grade reading test score, twelfth-grade math test score).¹¹

Table 2 Summary Statistics of Analytic Sample on Selected Characteristics

	All	Public	Nonprofit	Private
	(1)	(2)	(3)	(4)
Public sector	0.14	1	0	0
Nonprofit	0.13	0	1	0
Private	0.68	0	0	1
PSM	-0.04 (0.99)	0.07*** (0.96)	0.08*** (0.99)	-0.09 (0.99)
Professional	0.02 (0.99)	0.04* (0.92)	0.01 (0.99)	0.02 (1.00)
Family	0.08 (0.95)	0.10 (0.95)	0.10 (0.93)	0.07 (0.95)
Money very important	0.32	0.30***	0.24***	0.33
Money not important	0.11	0.13**	0.15***	0.11
Male	0.47	0.41***	0.30***	0.50
White	0.63	0.58***	0.63	0.64
Black	0.11	0.15***	0.13***	0.09
Hispanic	0.12	0.11	0.10***	0.12
Asian	0.09	0.09	0.09	0.09
Native American	0.01	0.01**	0.01	0.01
Multiple races	0.04	0.05**	0.04**	0.04
Mother has college degree or more	0.31	0.35***	0.34***	0.30
GPA	2.92 (0.69)	3.02*** (0.68)	3.11*** (0.65)	2.89 (0.69)
Reading test	52.73 (9.55)	52.95** (9.60)	54.43*** (9.71)	52.49 (9.45)
Math test	52.92 (9.55)	52.94 (9.54)	53.73*** (9.80)	52.82 (9.51)
College degree or more	0.44	0.57***	0.58***	0.42
Observations	8,180	1,130	1,050	5,570

Standard deviations in parentheses.

* $p < .10$; ** $p < .05$; *** $p < .01$ for t -tests on difference in means between public (nonprofit) and private.

Table 2 displays summary statistics that describe the analytic sample on a selected set of controls both overall and separately by sector of employment in 2012. As column 1 indicates, there are approximately 8,180 students with complete data on all relevant variables. The three factors have a mean of zero in the full sample of students; however, after eliminating students missing data on other variables, the means of these factors in the analytic sample are no longer zero. Columns 2 through 4 summarize the descriptive characteristics of workers in each sector from the ELS cohort. Notably, those who decide to work in the public and nonprofit sectors hold considerably higher PSM values than those in the private sector, on average. Similarly, and consistent with prior research (e.g., Brewer 2003; Crewson 1997; Houston 2000), a smaller share of those who work in the public and nonprofit sectors reported making a lot of money as important to them before they entered the labor market. Finally, the descriptive statistics suggest that those who sought careers in the public and nonprofit sectors tended to be academically more capable than those who entered the private sector. This suggests that education may be one way in which PSM shapes sector sorting.

Empirical Strategy

Evaluating the factors that influence decision making in the labor market can be represented by a simple model. A worker’s choice of sector to which he or she would like to provide labor is a function of his or her characteristics, family inputs, abilities, and preferences. The effect of a variety of values on this decision is of particular interest due to their likely effect on behaviors and values while

on the job. I model the choice of sector j for individual i as the following function:

$$Pr(y_i = j | X_i) = \text{motivation}_i \beta_j + X_i \delta_j + \varepsilon_{ij}, \quad (1)$$

where y reflects the sector an individual works in; *motivation* represents the base of motivation (i.e., PSM-related values, professional, family, or extrinsic) of an individual before labor market entry; and X represents a vector of workers' characteristics (e.g., demographics, socioeconomic status [SES], ability).¹² In equation (1), β captures the effect of an individual's values on the likelihood they will choose to work in sector j . Since *motivation* is measured before workers enter the labor force, β will not be biased by sector-specific socialization processes. However, β may be biased if values lead to an intermediate outcome that affects sector selection. For instance, if a worker's base of motivation determines whether a worker completes college, then the direct effects of *motivation* on sector choice remain unclear. College education, rather than motivational values, might be the primary determinant of sector selection. I replace sector in equation (1) with educational attainment (attending some college or graduating from college or more), family life (having a child or ever marrying), and college major to test for potential intermediate outcomes. In the case of binary outcomes (i.e., educational attainment and family life), j takes on a value of one. I estimate equation (1) using multinomial logistic regressions (MNL) to account for the discrete choice nature of the outcome (Cameron and Trivedi 2009; Wooldridge 2010). In cases of binary outcomes, I employ logistic regressions.¹³ After investigating possible mediators of the relationship between PSM and sector selection, I estimate equation (1) and add controls for mediators and intermediate behaviors.

Results

Multinomial Logistic Regression Estimates

Table 3 presents MNL estimates of equation (1) on workers' initial sector selection. Columns 1–3 report the calculated the unconditional average partial effects (APE) on the likelihood of each outcome in a single MNL.¹⁴ Columns 4–6 present the APE of equation (1) including all controls. As the results in the first row demonstrate, PSM-related values are a modest, statistically significant predictor of the initial sector a worker will choose. Comparing the unconditional and fully specified estimates shows that PSM-related values remain a significant predictor of sector selection even after accounting for student demographics, SES, religiosity, and ability. The results indicate that, holding demographics, SES, religiosity, and ability constant, an increase of one standard deviation on the PSM-related values index corresponds with a 2 percentage point increase in the likelihood of entering work in the public sector and the relationship is significant.

The effect of PSM-related values on selecting into the nonprofit sector is similar and not statistically different from the effect of PSM-related values on selecting into the public sector. Similarly, PSM-related values have an inverse relationship with sorting into the private sector. An increase of one standard deviation on the PSM-related values index corresponds with a four-percentage point decrease in the likelihood of working in the private sector.

Neither the professional motivators nor family considerations significantly affect workers' sector selection, which is perhaps unsurprising. Many jobs in all three sectors adhere to professional norms, and so individuals motivated by professional prestige

Table 3 Multinomial Logistic Regression Estimates of Effect of PSM on Sector Choice (APE)

	Public (1)	Nonprofit (2)	Private (3)	Public (4)	Nonprofit (5)	Private (6)
PSM	0.02*** (4.96)	0.02*** (5.07)	-0.04*** (-7.65)	0.02*** (3.45)	0.01** (2.98)	-0.03*** (-5.05)
Professional	0.00 (0.68)	0.00 (0.05)	-0.00 (-0.50)	-0.00 (0.03)	-0.00 (-0.57)	0.00 (0.46)
Family	0.00 (-0.30)	0.00 (-0.26)	0.00 (0.44)	-0.00 (0.03)	-0.00 (0.05)	0.00 (0.06)
Money very important	-0.01 (-1.40)	-0.05*** (-5.24)	0.06*** (5.33)	-0.01 (-1.22)	-0.03*** (-3.15)	0.04*** (3.48)
Money not important	0.01 (1.04)	0.03*** (2.42)	-0.04*** (-2.47)	0.01 (1.00)	0.02** (1.99)	-0.04** (-2.16)
Male				-0.01 (-0.86)	-0.07*** (-8.05)	0.08*** (7.40)
Mother has college+				0.03** (2.01)	-0.00 (-0.02)	-0.03 (-1.58)
GPA				0.04*** (4.93)	0.04*** (5.15)	-0.08*** (-8.17)
Math score				-0.00* (-1.67)	-0.00 (-0.49)	0.00* (1.74)
Reading score				-0.00 (-0.40)	0.00 (1.46)	0.00 (-0.87)
Controls for demographics	No	No	No	Yes	Yes	Yes
Controls for ability	No	No	No	Yes	Yes	Yes
Controls for SES	No	No	No	Yes	Yes	Yes
Controls for religiosity	No	No	No	Yes	Yes	Yes
Pseudo R ²	0.01	0.01	0.01	0.04	0.04	0.04
Log-likelihood	-6049.93	-6049.93	-6049.93	-5877.59	-5877.59	-5877.59
N	7,750	7,750	7,750	7,750	7,750	7,750

Z-statistics in parentheses.

* $p < .10$; ** $p < .05$; *** $p < .01$.

might be expected to be evenly distributed across all three sectors. Similarly, as Lewis and Ng (2013) note, family considerations might drive sector selection for different, offsetting reasons. While perceived stability might induce some family motivated workers' selection into public or nonprofit sector occupations, larger pecuniary rewards might induce other family motivated workers to select private sector occupations.

Consistent with previous research (Brewer 2003; Crewson 1997; Houston 2000), those who value monetary rewards are significantly more likely to enter the private sector and significantly less likely to enter the nonprofit sector. Notably, the estimated effects of monetary rewards and professional extrinsic factors (e.g., having a good job, having job stability, etc.) are not significant predictors of selecting into the public sector, suggesting that PSM-related values provide more leverage in understanding public sector workers and that workers with a motivation for professional extrinsic rewards are evenly distributed across sectors. Although the effect of PSM-related values on sector selection appears modest, the effect is consistent and in the directions predicted by PSM theory. Moreover, it is a stronger predictor of selection into the public sector than ability, most indicators of SES (e.g., household income), and religion.

Practically speaking, the effect of PSM-related values on initial sector selection is modest, but still important for understanding sector sorting behavior. On the one hand, race, gender, and SES have larger effects on initial sector selection than PSM alone. Indeed, accounting for them shrinks the magnitude of the effect of PSM-related values on selecting nonprofit sector employment. A large increase in PSM-related values (one standard deviation) only increases the likelihood of entering public service by 2 percentage points. Of course, if there is substantial variation across jobs and industries within the public and nonprofit sectors in attracting high-PSM workers, these effects may understate the importance of PSM in some public sector occupations.

On the other hand, relative to other potential motivating values, PSM-related values provide a significant predictor of sector selection eight years later. Moreover, a 2 percentage point increase represents a sizeable increase relative to the baseline probability of entering public sector work. In the national sample of high school students, only 14 percent begin their careers in the public sector. Consequently, even a modest effect on entry into the public sector represents a relatively large increase from the baseline likelihood of entering public service. A 2 percentage point increase in the likelihood of entering the public sector represents a 14 percent increase over the baseline likelihood of engaging in public service. Extrinsic motivations also have large effects on initial sector selection in some instances (private and nonprofit), but the effects are consistent with PSM theory. Indeed, examining a national sample of high school seniors and predicting the sector of their careers eight years later, it is perhaps striking that only race, gender, and mother's education, three factors that profoundly shape many aspects of individuals' lives, have larger effects on sector selection than PSM-related values. Moreover, the effect size of PSM-related values is similar to effect of GPA, a measure of both cognitive and noncognitive skills, on sector selection.

Despite the relatively modest effect of PSM-related values on individuals' long-run choices, the effect on aggregate workforce values is practically substantive. As the descriptive statistics indicate, the aggregate (pre-labor market) PSM index scores of those who entered the public sector are much higher than those who entered the private sector. This suggests that because of small, but significant, effects of PSM on individuals' initial sector choice, public sector workers overall respond to very different motivating values than their private sector counterparts. This is particularly true if socialization within sector multiplies the effects of baseline values on behaviors, performance, and expectations on the job.

Mechanisms

As noted previously, measuring PSM before labor market entry avoids the endogeneity problem of comparing workers already in the labor market or with potentially significant labor market experience. However, other mediating factors may also influence sector selection. If PSM-related values also influence the likelihood a worker graduates from college, the observed effect on sector selection may actually be attributable to high-PSM workers receiving a college education at higher rates. Indeed, Bright (2008) notes that college education has stronger correlation with sector of work than PSM. Similarly, high-PSM individuals may be more likely to have a family, thereby seeking work in a sector with more regular hours or stability after having a family.

On the other hand, PSM-related values may affect sorting throughout the work selection pipeline. For instance, while educational attainment itself may be unrelated to PSM, PSM may affect the major a person selects in college. To the extent that majors in college align with jobs in particular sectors, PSM-related values might be expected to affect sorting into majors in preparation for entering the labor market.

Table 4 presents logistic and MNL regression estimates investigating these possibilities. Column 1 presents the APE of motivational values on the likelihood of an individual attending at least some college. The results suggest no significant relationship between PSM-related values and entering college. Column 2 shows the APE of motivational values on the likelihood an individual graduates college with a four-year degree or more, holding all else constant. The results show that PSM-related values have no effect on the likelihood a student will complete college or more. Notably, gender, mother's education, and high school GPA all affect college graduation in directions consistent with trends in higher education. The null effect of PSM-related values on educational attainment suggests that observed direct effects of PSM-related values on sector selection do not operate through higher educational attainment.

Columns 3 and 4 examine two measures of setting up a family as potential mechanisms by which PSM-related values indirectly affect sector choice. Column 3 shows that PSM-related values have no effect on the likelihood an individual will have a child and column 4 indicates PSM-related values have a small, negative effect on the likelihood a person has ever married. Notably, the family considerations factor is a significant predictor of both family outcomes, suggesting the factor accurately captures values associated with the importance of family. Together, the results in columns 3

Table 4 Estimated Effect of PSM on Mediating Factors of Sector Selection (APE)

	Some college (1)	College or More (2)	Has Child (3)	Ever Married (4)
PSM	-0.00 (0.01)	0.00 (-0.26)	-0.01 (-1.00)	-0.01* (-1.76)
Professional	0.00 (0.54)	0.01** (2.09)	0.00 (0.22)	-0.00 (-0.21)
Family	-0.01 (-1.46)	0.01*** (2.93)	0.03*** (5.31)	0.03*** (5.96)
Money very important	-0.02 (-1.59)	0.01 (1.20)	-0.03*** (-2.62)	-0.05*** (-3.99)
Money not important	0.03* (1.73)	-0.03* (-1.82)	0.04*** (2.77)	0.07*** (4.44)
Male	-0.03*** (-2.97)	-0.04*** (-3.69)	-0.11*** (-11.00)	-0.05*** (-4.87)
Mother has college+ GPA	-0.03** (-2.06)	0.06*** (5.15)	-0.05*** (-3.66)	-0.05*** (-3.76)
	-0.17*** (-15.52)	0.24*** (27.91)	-0.08*** (-9.34)	0.06*** (6.19)
Math score	-0.00*** (-5.34)	0.01*** (9.90)	-0.00*** (-6.84)	-0.00*** (-4.70)
Reading score	-0.00 (-0.26)	0.00** (2.50)	-0.00** (-2.54)	-0.00 (-0.49)
Controls for demographics	Yes	Yes	Yes	Yes
Controls for ability	Yes	Yes	Yes	Yes
Controls for SES	Yes	Yes	Yes	Yes
Controls for religiosity	Yes	Yes	Yes	Yes
Pseudo R ²	0.13	0.30	0.15	0.07
Log-likelihood	-4887.93	-3924.25	-3881.44	-4659.95
N	8,180	8,180	8,180	8,180

Z-statistics in parentheses.

* $p < .10$; ** $p < .05$; *** $p < .01$.

and 4 suggest that the effect of PSM-related values does not operate through high-PSM people systematically establishing families early in their working careers. If workers with families seek the career and schedule stability more common in public and nonprofit sector work and high-PSM people were more likely to establish families, then the direct effect of PSM-related values on sector selection might be attributable to seeking public service occupations simply as a function of working around family schedules. The evidence presented here suggests that family considerations do not mediate the relationship between PSM-related values and beginning a career in public or nonprofit sector work.

Table 5 contains MNL estimates of the effect of PSM-related values on choice of major. While the results in table 4 demonstrate that PSM-related values do not alter selection into postsecondary education, PSM-related values might affect decisions during postsecondary education as students prepare for the labor market, such as choosing a major. Each column in table 5 represents a different potential outcome for individuals choosing a major. The results provide evidence that motivational values play an important role in sector sorting even in earlier decisions in the work choice pipeline. As columns 3 and 5 indicate, PSM-related values increase the likelihood that a student will major in social sciences or public affairs, two categories of majors most directly related to public and nonprofit sector work. Interestingly, PSM-related values have no effect on the likelihood a person will select a major in education to pursue a

career teaching, an occupation most commonly observed in the public sector. Instead, the importance of family considerations significantly predicts the likelihood one will major in education. This is perhaps unsurprising as the work schedule of teachers would better align with parental scheduling needs than many other occupations.

Column 1 indicates no relationship between PSM-related values and selecting a STEM major, a wide variance in the estimated effect likely attributable to the wide range of careers in all three sectors available to STEM majors. Column 2 demonstrates that PSM-related values are negatively correlated with selecting a business major, a category of majors more commonly associated with private sector careers. Finally, and perhaps surprisingly, PSM-related values have a negative, marginally significant association with the likelihood of pursuing a health major. On the one hand, given the medical profession's prosocial nature, one might expect health fields to attract those with high levels of PSM. On the other hand, the potential for high financial returns may draw students more responsive to extrinsic motivators.

Baseline Estimates Controlling for Mediators

Table 6 presents estimates of the baseline model with controls for the mediators and intermediate behaviors described previously. Columns 1–3 present the APE estimates while controlling for the family and educational attainment mediators. The results demonstrate that PSM-related values remain a significant predictor of sector selection even after accounting for family factors and educational attainment. Consistent with Bright (2008), educational attainment has a large, significant relationship with sector selection. Specifically, students who attained a four-year degree or more are 9 percentage points more likely to begin their careers in the public sector and 10 percentage points more likely to begin their careers in the nonprofit sector. However, as demonstrated previously, PSM-related values do not significantly influence the likelihood of completing a college degree. Consequently, the results suggest that PSM-related values affect sector selection independently of education.

Columns 4–6 of table 6 add controls for college major, an intermediate labor market decision, to the baseline model of sector selection. Business majors serve as the baseline group. The results demonstrate that accounting for major selection in college, an early indicator of an individual's career aspirations, reduces the strength of the relationship between PSM-related values and early-career sector selection. Despite the reduced magnitude in the relationship between PSM-related values and sector selection, the relationship remains significant. The relationship between college major and sector selection is also strongly significant and in expected directions. For instance, the results show that social science majors are 14 percentage points more likely to begin their careers in the public sector than similar students with a business major. The inverse holds true for selection into the private sector, where social science majors are 17 percentage points less likely than business majors to begin careers in the private sector. Similarly, public affairs majors are 6 percentage points more likely than business majors to begin their careers in the nonprofit sector and 9 percentage points less likely to begin in the private sector. Education majors were 27 percentage points more likely to begin their careers in the public

Table 5 Estimated Effect of PSM on Mediating Factors of Sector Selection (APE)

	STEM (1)	Business (2)	Social science (3)	Education (4)	Public affairs (5)	Health (6)	Other (7)
PSM	-0.00 (0.18)	-0.03*** (-4.87)	0.02*** (5.07)	0.00 (0.27)	0.01** (2.11)	-0.01* (-1.72)	0.01 (0.97)
Professional	0.02*** (2.95)	0.00 (0.62)	-0.00 (-0.48)	-0.01** (-2.42)	-0.01 (-1.46)	0.01 (1.15)	-0.02** (-1.96)
Family	-0.02*** (-3.28)	0.01 (0.94)	0.00 (0.52)	0.03*** (4.51)	0.00 (0.51)	0.02** (2.18)	-0.03*** (-4.18)
Money very important	-0.00 (-0.01)	0.04*** (3.45)	0.01 (0.79)	-0.04*** (-2.79)	-0.00 (-0.22)	0.01 (0.74)	-0.02 (-1.50)
Money not important	-0.01 (-0.37)	-0.09*** (-3.55)	0.00 (0.10)	0.05*** (4.27)	-0.01 (-0.63)	-0.02 (-1.18)	0.08*** (3.96)
GPA	0.05*** (3.88)	-0.01 (-0.94)	0.00 (0.31)	-0.00 (-0.38)	-0.00 (-0.57)	0.00 (0.23)	-0.04*** (-2.72)
Math score	0.01*** (10.32)	0.00 (0.90)	0.00 (1.00)	-0.00*** (-4.56)	-0.00*** (-3.86)	-0.00*** (-3.50)	-0.00*** (-2.88)
Reading score	-0.00*** (-5.41)	-0.00** (-2.50)	0.00*** (5.13)	0.00 (0.29)	0.00** (2.16)	-0.00*** (-2.94)	0.00*** (4.29)
Controls for demographics	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls for ability	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls for SES	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls for religiosity	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Log-likelihood	-6884.18	-6884.18	-6884.18	-6884.18	-6884.18	-6884.18	-6884.18
N	4,190	4,190	4,190	4,190	4,190	4,190	4,190

Z-statistics in parentheses.

* $p < .10$; ** $p < .05$; *** $p < .01$.**Table 6** Multinomial Logistic Regression Estimates of Effect of PSM on Sector Choice (APE), Accounting for Mediators

	Public (1)	Nonprofit (2)	Private (3)	Public (4)	Nonprofit (5)	Private (6)
PSM	0.02*** (3.51)	0.01*** (2.77)	-0.03*** (-4.93)	0.01** (2.34)	0.01** (2.34)	-0.03*** (-3.73)
Professional	-0.00 (-0.20)	-0.00 (-0.93)	0.01 (0.87)	0.01 (0.63)	-0.00 (-0.34)	-0.00 (-0.23)
Family	-0.00 (-0.45)	-0.00 (-0.19)	0.00 (0.51)	-0.00 (-0.22)	-0.00 (-0.85)	0.01 (0.83)
Money very important	-0.01 (-1.15)	-0.03*** (-3.06)	0.04*** (3.36)	0.01 (0.42)	-0.03** (-2.26)	0.03 (1.49)
Money not important	0.01 (0.92)	0.03** (2.23)	-0.04** (-2.28)	0.01 (0.59)	0.04** (2.34)	-0.05** (-2.22)
Has child	-0.00 (-0.02)	-0.01 (-1.29)	0.01 (0.96)	0.01 (0.38)	-0.03* (-1.72)	0.02 (1.09)
Ever married	0.03*** (2.99)	0.01 (1.16)	-0.04*** (-3.36)	0.00 (0.16)	0.02 (1.55)	-0.02 (-1.42)
Student college+	0.09*** (4.18)	0.10*** (4.72)	-0.19*** (-7.26)	N/A	N/A	N/A
Business major	N/A	N/A	N/A	(Omitted)		
Social science major				0.14*** (4.97)	0.03 (1.11)	-0.17*** (-4.91)
Education major				0.27*** (11.82)	0.08*** (3.00)	-0.35*** (-11.58)
Public affairs major				0.03 (0.90)	0.06** (2.17)	-0.09** (-2.42)
Controls for all majors	Yes	Yes	Yes	Yes	Yes	Yes
Controls for demographics	Yes	Yes	Yes	Yes	Yes	Yes
Controls for ability	Yes	Yes	Yes	Yes	Yes	Yes
Controls for SES	Yes	Yes	Yes	Yes	Yes	Yes
Controls for religiosity	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.05	0.05	0.05	0.08	0.08	0.08
Log-likelihood	-5811.57	-5811.57	-5811.57	-3255.93	-3255.93	-3255.93
N	7,750	7,750	7,750	4,050	4,050	4,050

Z-statistics in parentheses.

* $p < .10$; ** $p < .05$; *** $p < .01$.

sector. This is perhaps unsurprising since most education jobs exist in the public sector.

In conjunction with the results presented in table 5, the results in table 6 provide strong support for the attraction-selection hypothesis in PSM theory and provide some insights into the results observed in previous cross-sectional analysis. Even after accounting for career aspirations (college major), higher-PSM college graduates are more likely to pursue public and nonprofit sector careers than their lower-PSM peers. However, PSM-related values also significantly predict career aspirations through the selection of a college major. Together, the results suggest that the strong relationship between education and selection into the public sector in previous research (e.g., Bright 2008) captures, in part, high-PSM students selecting public service oriented majors during college.

Discussion

Overall, the results confirm the proposition in PSM theory that values aligned with public sector functions play an important role in workers' decision making when entering the labor market. Specifically, PSM-related values directly affect the likelihood a person will choose an occupation in the public sector. Using longitudinal, nationally representative data and a measure of values recorded before substantial interactions with the labor market, the results provide generalizable evidence of the effect of PSM-related values on sector preference and avoid the endogeneity problems in prior research on PSM. Moreover, the study investigates and eliminates some commonly offered alternative explanations for the observed relationship between PSM and sector selection. While there is no evidence that PSM-related values operate through intermediary choices unrelated to the normative preference of particular sectors, such as starting a family or graduating college, the significant effect of PSM-related values on selecting a major in college indicates that PSM values reflect an intrinsic motivation to pursue a public-service-oriented career. That is, the direct effects of PSM on sorting into work in different sectors is also observed in earlier career-related decisions that involve sector-related implications.

Moreover, collectively, the results underscore the importance of PSM-related values for understanding the decision to enter public service. Among high schoolers, few characteristics significantly predict career decisions eight years later. PSM-related values rank alongside core characteristics that shape an identity, such as race, gender, and childhood SES, as one of the few factors that significantly predicts public service eight years later. The results demonstrate that PSM-related values may be part of a stable disposition or trait, and suggest PSM, like other personality traits and dispositions, may become less malleable over time (Van Witteloostuijn, Esteve, and Boyne 2017).

Although the ELS provides rich data suitable for examining the longitudinal effects of PSM-related values, the data present some limitations. First, since the items in the ELS are not exact matches of survey items commonly used to measure PSM, the complete 24-item instrument developed by Perry (1996), or the refined 16-item instrument developed by Kim et al. (2013), this presents a potential limitation of the study and future research would benefit from including the PSM instrument in longitudinal data collection.

However, several scholars have noted that PSM captures prosocial values particular to the public service context, and therefore alternative measures found in secondary data (such as the ELS) can sufficiently measure these underlying values and provide additional data for answering important, lingering questions in PSM research (e.g., Moynihan, DeLeire, and Enami 2015; Ward 2014). Moreover, Wright, Christensen, and Pandey (2013) demonstrate that generalized measures of PSM and measures of prosocial motivation are highly correlated and do not differ significantly in their relationship with job satisfaction. The potential benefits to PSM research from insights derived using secondary data outweigh the limitations of a less precise measure of PSM.

Second, the ELS follows students only for eight years after high school. For college graduates, the ELS captures early-career occupations, not necessarily permanent jobs. Although this provides strong behavioral evidence of initial sector selection after college, people may switch professions many times over their working life. National trends of increasing workforce flexibility may make occupation switching more likely over time, especially if occupation switching also leads to individuals crossing sectors. Future research should examine the extent to which preexisting PSM leads to persistence in the public and nonprofit sectors and document trends in occupation changes occurring across and within sectors. Moreover, while the current study assesses some of the commonly discussed potential moderators of the relationship between PSM and sector selection, several potential moderators remain unexamined. For instance, Christensen and Wright (2011) note that student loan debt, job market conditions, and initial salary may moderate the relationship between PSM and sector selection, and the data used in the present analysis does not allow for the examination of these possibilities. Notably, even accounting for a robust set of controls known to affect educational attainment and employment outcomes, much of the variation in sector choice remains unexplained by observable characteristics in adolescence. While this does not bias the estimates presented in the current study, it underscores the need for continued research in understanding the factors in early adulthood that shape entry into public service.

Conclusions

After testing the attraction-selection hypothesis of PSM theory using nationally representative data that avoids the endogeneity problem of potential socialization mechanisms through previous work experience, the results presented here confirm that those who hold PSM-related values are more likely to self-select into public or nonprofit sector work. Moreover, those who place a high value on monetary rewards are significantly less likely to enter public or nonprofit sector work. Importantly, the effects documented here observe a measure of intrinsic values prior to entering the workforce, controlling for bias introduced by workforce environment on measures of worker values and providing evidence of the direction of the relationship between PSM-related values and sector selection. The positive relationship between PSM-related values and selection into both public and nonprofit occupations is consistent with other recent evidence examining nonprofit workers (Bright 2016). The relationship between values and job choice seems related to educational attainment only to the extent that sorting occurs into majors within colleges before the labor market. Collectively, the

insights provided by this research carry a variety of implications for public management practice, research, and theory.

First, as Ritz, Brewer, and Neumann (2016) note, the most commonly cited recommendation to practitioners in PSM scholarship is to use PSM items in a screening process for recruitment. This seems largely motivated by the growing body of empirical evidence that suggests a link between PSM and performance in public service occupations (e.g., Andersen, Heinesen, and Pedersen 2014; Bellé 2013). The results of this study suggest, however, that PSM values drive self-selection into the public sector. While recruitment efforts screening for PSM among applicants could certainly aid in the identification of potential workers, the results presented here suggests additional considerations for public managers. Specifically, these results suggest public managers already receive workers from the higher end of the PSM distribution. Consequently, managers of public organizations should focus on implementing reward and incentive structures that consider the service orientation of their workforce, particularly for early-career bureaucrats.

As Bright (2016) notes, some high-PSM workers with government experience report being less likely to seek a return to government careers after leaving. In conjunction with Bright's findings, the results presented here underscore that public and nonprofit management practices should consider the distinct motivation public sector workers carry with them into the workforce to avoid losing promising employees. For instance, ensuring the mix of time spent on bureaucratic versus service activities minimizes the former to the extent possible would keep workers engaged and satisfied in their work activities. Indeed, this would be consistent with prior research demonstrating that prosocially motivated workers perform better when interacting with the beneficiaries of their effort (Bellé 2014; Grant 2012). Another example would be attaching bonuses to service behavior to the agency, organization, or team rather than strictly individual performance. Ensuring rewarded service behaviors also contribute to organization productivity could be one tool for managers to leverage to increase performance in a manner consistent with public organization values.

Second, the results confirm the general understanding among public management scholars that public organizations and workers are different from private sector workers in theoretically important ways. The results imply that the workforce in the public sector carries systematically different values into their work than their private sector peers. Consequently, our understanding of the performance of public organizations, and administrative reforms aimed at improving performance, should consider these fundamental differences in the motivational bases of workers in each sector. For instance, market mechanisms for public service delivery rely on competition for gains in efficiency and effectiveness. However, for some public services, competition may be at odds with the norms and values of most workers drawn to the organizations providing those services. As a result, using market mechanisms in these service contexts may lead to few efficiency gains and potentially even losses. Future research should aim to better identify the relationship between PSM and PSM-related values and job choice. Examining the extent to which there is heterogeneity in the importance of PSM in job selection within sectors would aid

considerably in understanding which organizations might benefit from management strategies aimed at aligning work tasks with PSM values. For some occupations, job attributes may overwhelm sector in the job choice process (see, e.g., Christensen and Wright 2011; Moulton and Feeney 2010). On the other hand, it may be the case that in other occupations, sector and job characteristics vary together in ways that shape job and sector selection simultaneously, as suggested by the results presented here.

Third, while the results confirm the direction of the relationship between PSM and public sector work, the study does not address a variety of questions important for future research. Socialization processes may still play an important role in cultivating PSM in the public sector workforce. Although the results here suggest a modest increase in the likelihood a person joins the public sector on account of high PSM-related values, the aggregate effects translate into a clustering of high-PSM individuals in the same organizations and sector of the economy. The interaction with other high-PSM workers might create a multiplicative effect on baseline PSM at entry, making the results of this study floor estimates of the importance of PSM in the public sector workforce (e.g., Bright 2013). Future research elaborating the extent to which interaction with high-PSM people multiplies PSM would aid in understanding these processes dramatically. Additionally, future research should investigate the organizational and managerial factors that enhance or diminish PSM and the relation between those changes in PSM and performance or attrition.

Finally, future research should explore the political implications of PSM. Although PSM does, to some degree, alter the principal-agent problem often associated with public administrators acting on behalf of elected officials, the alteration opens new and interesting questions about the nature of principal-agent problems in the public sector. For instance, although mission commitment might lead to fewer problems associated with shirking and budget maximization, a higher-PSM workforce may also lead to pursuing their own goals at the expense of oversight from elected officials. While PSM reflects a promising means to better understand the motivations behind public officials' behaviors as distinct from self-interested pursuits, the other-orientation implicit in PSM also carries a set of equally important questions relevant to governing in a democratic context. These questions warrant further consideration in future research.

Notes

1. See table A1 in the Supporting Information online for a complete list of items in the social values section.
2. See table A8 online for a comparison of the analytic sample, students missing data from high school surveys, and students who exited the sample on observable characteristics that are available. Students missing data from high school sources tend to come from lower socioeconomic status households and have lower academic achievement than those who are not missing data. Those who exit the sample by 2012 show similar patterns to those who were missing some data in high school. Table A7 online reruns the baseline model using ordinary least squares, which allows for the inclusion of ELS provided sample weights designed to reduce attrition-related bias. The estimates demonstrate that the results are robust to different estimators and weights correcting for sample attrition.
3. In all, 13.8 percent of the sample was unemployed and 24.6 percent was still in school in 2012. Table A4 online restricts the sample to employed people and

- reruns the baseline model. The results are consistent with the baseline model presented in the text.
4. Table A5 online shows that the results are robust to excluding military occupations.
 5. Table A6 online estimates the model including “still in school” as a 1 and shows that the results do not change significantly.
 6. The STEM category includes architecture and related fields, engineering technologies and technicians, mathematics and statistics, biological and biomedical sciences, physical sciences, and computer and information sciences. The public affairs category includes public administration and social services, and communications and journalism. The other category contains all other majors not listed.
 7. The Cronbach’s alphas of the PSM (0.68), professional (0.66), and family (0.57) factors are all above 0.50, which suggests the responses to the items in each index are sufficiently correlated to be a reliable measure. Although the estimated Cronbach’s alphas for the factors are on the lower-side of conventional acceptability, evaluating the strength of an alpha must also consider the number of items being used to measure an underlying factor (for a helpful discussion on this, see Cortina 1993). In the current case, the three factors examined use three items (the PSM index in the revised manuscript, but was five items initially), five items (the professional index), and four items (the family index). Despite the low number of items, all of the indices come close to 0.70. Moreover, the index with the lowest Cronbach’s alpha, the family index, significantly corresponds with family related behaviors, such as marriage and having children, which suggests the index does capture the underlying factor of interest. Finally, the results are robust to dropping items with the lowest weight from each index. However, dropping the items does not appreciably improve the reliability of the indices.
 8. Using the factors identified using principal component analysis, I estimate a series of goodness-of-fit indices to verify the reliability of the items in measuring the underlying factors. Following Kim et al. (2013), I evaluate the reliability of each factor per the comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean residual (SRMR), which are robust to the use of large samples. The PSM factor has a CFI of 0.97, RMSEA of 0.08, and SRMR of 0.03, all of which suggest the model of PSM using the items in table 1 fit the data well. Similarly, goodness-of-fit indicators of the professional (CFI = 0.96; RMSEA = 0.08; SRMR = 0.03) and family (CFI = 0.99; RMSEA = 0.03; SRMR = 0.01) factors suggest the items in table A1 online provide reliable measures of the underlying factors. The three factors are only slightly correlated, with the correlation between the three factors ranging from 0.27 to 0.39, which suggests that the factors are sufficiently distinct from one another.
 9. As Perry (1996) notes, the original survey instrument was developed using samples of people already in public service to varying degrees, leading to concerns about priming responses which precluded using scales. Instead, Perry ameliorated this problem by using five or more statements per dimension, some of which included both positive and negative sentiments about a given value. In the ELS, on the other hand, the items used in this study are asked to the general population as part of a broader data collection effort in which participants respond to items about a wide variety of subjects. For the purposes of this study, the broader context of the ELS reduces concerns that items primed student responses in each direction, aiding reliable measurement of student motivations. Moreover, the items in the ELS differ from other measures of PSM in a manner that is appropriate for measuring PSM among adolescents.
 10. Table A1 online presents items from a five-item ELS measure. While the five-items are correlated with the underlying common factor, two of the items, “being patriotic” and “supporting environmental causes,” have less theoretical support as measures of PSM. The results using the three-item measure presented in the paper are nearly identical to models using the five-item measure.
 11. The ELS did not administer the reading test in the twelfth grade.
 12. For ease of inference, the measures of ability used in the analysis (high school GPA and reading and math test scores) treated linearly. The results are robust to the use of quadratics for these variables.
 13. Students could also be shaped by school and neighborhood effects in ways unobserved to the researcher. MNL regressions cannot include fixed effects to account for these potential sources of bias because of incidental parameters bias in maximum likelihood estimators. One way to account for this is to include a Mundlak device, in this case the within school averages of all X . Since these school-level characteristics are likely correlated with unobserved school effects, they partially control for school-level influences (Wooldridge 2010). Table A3 online replicates the main results including school-level controls and demonstrate that they do not appreciably affect the results.
 14. Table A2 online contains the estimates of all variables included in the baseline model and quadratic conversions of continuous variables (GPA, math scores, and reading scores) to control for potential nonlinearities.

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Supporting Information

Appendix S1. Online Appendix A supplementary appendix may be found in the online version of this article at <http://onlinelibrary.wiley.com/doi/10.1111/puar.12906/full>.