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The Persistence of Prosocial Work Effort as a Function of Mission Match

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Abstract: *The authors use an online experiment to test the proposal that "mission match" leads to persistent prosocial work effort, whereby employees go above and beyond remunerated job responsibilities to deliver a public good. First, the importance of mission match to persistent prosocial work effort in public and nonprofit organizations is discussed. Then a real-effort experiment is used to test whether mission match is associated with the persistence of individual work effort under conditions of unreasonable performance expectations. Findings show that subjects' narrow identification with the mission of the particular organization on whose behalf they are working is a more important determinant of persistence than the extent to which one reports self-sacrifice as a motivation toward service. Moreover, reported self-sacrifice does not appear to reinforce the relationship between mission match and persistent prosocial work behavior.*

Evidence for Practice

- Matching workers with missions can increase the persistence of employees' prosocial work behaviors.
- Results suggest that specific identification with organizational mission is more substantively significant in prosocial work than more broad-based, other-regarding orientations to society.
- Managers may focus more readily on workers who highly identify with the organization's mission on both a personal basis and on its perceived societal impact than on screening employees on their general prosocial proclivities.

What motivates individuals not only to work hard but to go above and beyond their formal job requirements when working on behalf of organizations that deliver social goods? Why do individuals persist in these efforts? Answers to these questions are of considerable theoretical and practical importance to public administration. While public work involves a range of tasks that vary in complexity and substance, real prosocial benefits can be derived by citizens from ostensibly simple acts of discretion by public administrators. In this study, we build on the work of Smith (2016) and others to explore the potential of "mission match" as a motivating factor in these kinds of prosocial work efforts. We use an online experiment to examine whether individuals who are randomly assigned to work on behalf of an organization whose mission they identify with strongly are more likely to persist when confronted with undue performance expectations than individuals who are randomly assigned to an organization whose mission they identify with weakly.

Secondarily, we are interested in whether public service motivation (PSM)—often defined as a "motivational force that induces individuals to perform meaningful public service" (Brewer and Selden 1998, 417)—strengthens the relationship between mission match and persistence. More specifically, we are interested in whether the self-sacrifice dimension of a common PSM scale (Coursey et al. 2008) strengthens this relationship. While a great deal of nonexperimental research suggests that PSM is associated with individual-level work behavior, causal evidence that connects PSM to observable behavior is relatively rare (Bellé 2013, 2014; Esteve et al. 2016; Pedersen 2015). Moreover, most of the work that does test this relationship fails to account for the potential confounding variable of organization-specific mission match (Wright 2007).

We first discuss the importance of mission match and public service motivation in the public and nonprofit sectors. We then describe the structure of our online experiment, which is designed to test how likely a subject will be to persist in working on behalf of a randomly assigned organization with a prosocial mission. Next, we describe our analysis sample, the measurement of variables, and the results of our experimental analyses. We conclude by discussing the implications of our findings for theory, practice, and subsequent research in this area.

Mission Match and Persistence

Organizational mission has long been considered a variable that influences the levels of satisfaction, effectiveness, and performance of public and nonprofit sector employees (e.g., Rainey and Steinbauer 1999). Wright, for example, concludes that "the intrinsic value afforded by the organization's mission" (2007, 60) has a greater impact on performance than the sorts of extrinsic rewards that tend to be emphasized by economists. The classic model of PSM popularized by Perry and Wise (1990) is another case in point. According to their argument, one of PSM's behavioral implications is that individuals who possess a high level of PSM should be more likely than others to seek work in public organizations, given that the missions of public organizations are generally congruent with these individuals' personal values.

Scholars of public service motivation are not alone in recognizing the importance of mission match to work effort. Recent economic theories acknowledge that employees who identify strongly with the mission of their organization tend to provide more effort to achieve the objectives of the organization. For example, in a real-effort experiment comparing matched and mismatched subjects with organizations by mission identification, Carpenter and Gong (2016) show that matched workers produce at substantially higher levels than mismatched workers. Their results further suggest that performance incentives have a moderating effect: extrinsic monetary incentives increase work effort significantly for mismatched workers, whereas for matched workers, the effect is minimal.

Within public administration, recent research by Smith (2016) explores the relationship between mission match and work effort. Smith, like Carpenter and Gong (2016), finds that mission match is associated with work effort. Nevertheless, the relationship between mission match and *persistence* in effort has not been tested. Moreover, the moderating effect (if any) of PSM has not been explored. In testing the relationship between mission match and persistence, we build on and extend the work of Carpenter and Gong (2016) and Smith (2016).

Public Service Motivation as a Moderator of Mission Match

Scholarship in applied psychology suggests that prosocial motivation is positively related to both persistence and performance (Grant 2008; Grant et al. 2007; Gregg et al. 2011; Wright and Grant 2010). Public administration scholars have identified public service motivation—a construct that is theoretically and practically related to prosocial motivation—as a common characteristic of individuals who choose to enter careers in public or nonprofit service, and they have distinguished PSM from policy advocacy or more narrow self-interested work motivations (Andersen et al. 2013; Perry 1996; Perry and Hondeghem 2008; Perry, Hondeghem, and Wise 2010; Perry and Wise 1990; Wright, Christensen, and Pandey 2013). Indeed, current research in public administration pertaining to PSM is plentiful. Echoing the conclusion drawn by Vandenabeele, Brewer, and Ritz, "When looking at academic journals, some topics stand out by their sheer numbers. Network governance is one example, and public service motivation is another" (2014, 779).

At the same time, exclusively employing PSM to predict individual performance or prosocial work effort is problematic (see Homberg, McCarthy, and Tabvuma 2015). To begin with, slow progress has been made to date to map out the antecedents and outcomes of PSM (see Perry and Hondeghem 2008; Van Witteloostuijn, Esteve, and Boyne 2016; Wright and Grant 2010). As PSM is an "individual, yet highly institutionally dependent, variable" (Vandenabeele, Brewer, and Ritz 2014, 782) that lacks sharp conceptual boundaries, it is many scholars' belief that causal links can seldom be persuasively established in generic PSM research (e.g., Waldner 2012). Given these complications, this study does not propose PSM as a singular causal factor. Rather, we emphasize the *moderating* or *complementary* effect of PSM's self-sacrifice dimension on mission match's relationship with persistence. Specifically, we expect that the relationship between mission match and persistence will be stronger among individuals with high levels of self-sacrifice than among individuals with low levels of self-sacrifice.

Research Design

In this research, we are interested in the effects of mission match on the persistence of prosocial work effort under conditions of undue performance expectations. Moreover, we examine whether self-sacrifice has a moderating influence on this relationship. Specifically, we test the following hypotheses:

> **Hypothesis 1**: Mission match increases the persistence of prosocial work effort.

> **Hypothesis 2**: Self-sacrifice strengthens the impact of mission match on the persistence of prosocial work effort.

Although numerous studies have implied that PSM may have important moderating influences on the relationship between mission match and employees' prosocial work behaviors and similar constructs such as organizational citizenship behaviors (OCB) (e.g., Baldwin 1984; Christensen and Wright 2011; Frank and Lewis 2004; Park and Rainey 2008; Perry and Wise 1990), limited empirical efforts are devoted to exploring a link between the two. Brewer and Selden (1998), for instance, find that high-PSM individuals are more likely to be whistleblowers—an act that they suggest is contrary to these individuals' self-interest. Other studies reinforce the link between PSM and various conceptualizations of performance (e.g., Alonso and Lewis 2001; Gregg et al. 2011; Leisink and Steijn 2009; Naff and Crum 1999; Ritz 2009). Yet most are compromised by internal validity concerns, given the cross-sectional, nonexperimental nature of the research designs.

Esteve et al. (2016) use an experimental public goods game to establish a positive link between PSM and prosocial behaviors. However, they do not account for the relative match of the individual to the mission of the organization for which he or she is performing. This is understandable, given the difficulty of implementing a research design that would require a similar task performed across organizations with different missions and accounting for the variations of mission match while (somehow) approximating random assignment of that match.

In this research, we assuage these concerns to some degree. We recruited workers from the United States from Amazon's

Mechanical Turk (MTurk). MTurk is an online labor market in which people complete short, "one-shot" tasks for pay.[1] Chandler and Kapelner argue that the MTurk environment is an ideal platform for field experiments that pertain to prosocial motivations, noting that "[t]he MTurk environment is a spot market for labor characterized by relative anonymity and a lack of strong reputational mechanisms. As a result, it is well-suited for an experiment involving the meaningfulness of a task since the variation… regarding a task's meaningfulness is less affected by desires to exhibit prosocial behavior or an anticipation of future work (career concerns)" (2013, 124).

To study processes in which one's work environment is expected to be consequential, and in using the MTurk platform for sample and subject selection, each of our subjects carried out a task that they performed as a part of their workday and, presumably, in their self-interest through direct remuneration. All of our subjects occupied a position of autonomy, in that they could choose the task for their own remuneration. And, particular to our study (as explained further later), all of our subjects were given the choice whether to continue a real-effort task on behalf of a randomly assigned charity without additional remuneration (or exit with the original remuneration). As Horton, Rand, and Zeckhauser argue, the key characteristic of subjects pooled from online labor markets such as MTurk is that "they will participate in the experiment within the context of an online labor market. This is critical, because the creators of online labor markets—for their own, non-experimental purposes—have built their platforms in a way that grants experimenters the control needed for valid causal inference" (2011, 401).

To test our two hypotheses, we recruited 600 subjects.[2] Subjects answered pretreatment questions about their public service motivation, various demographic and ideological characteristics (see Appendix A in the Supporting Information online for a copy of our survey), and a series of questions about the mission of five prominent national nonprofit organizations. We chose these five organizations on the basis that each represented a distinct national issue area, and each was rated above a composite score of 80 by Charity Navigator's rating system on two distinct components: (1) financial health and (2) accountability and transparency.[3] The five organizations we chose were the American Civil Liberties Union (ACLU) (representing civil rights as an issue area), DonorsChoose. org (representing education), the Sierra Club Foundation (representing environmental issues), the Alliance for Aging Research (representing health), and National Public Radio (NPR) (representing arts, culture, and humanities).

We purposely chose organizations that are quite similar in ideological orientation. We did so for several reasons. For the purposes of external validity, we think it is doubtful that a conservative (liberal) would consider working for either a gun rights or a gun control organization, for instance. Second, we wanted to limit the potential conflation of ideology with self-concordance (salience) or positive social impact (valence). Finally, we believe that we provide a rather cautious test of mission match—given there is not a stark difference in the ideological character of the organizations.

Mission Match

We displayed a summary of each of the organization's mission statements and then asked the following two questions to measure mission match:

1. How important is the mission statement of [insert nonprofit organization] to you personally? I mean, how much do you personally care about this issue?
2. To what extent do you agree that the [insert nonprofit organization] is an organization that does good for society?

Response options for the first question ranged from 1 = "not important at all" to 7 = "extremely important." Response options for the second question ranged from 1 = "strongly disagree" to 7 = "strongly agree." The subjects were later randomly assigned to one of these organizations and given the opportunity to earn money that could be donated to that organization. In other words, we induced random variation in mission match by randomly assigning subjects to one of five potential nonprofit organizations.

We offer a more nuanced measurement than has been proffered in experimental studies of the influence of mission match. We accommodate both the salience and valence of a subject's orientation to a given organization. Individuals with a variety of pursuits perceive an alignment between their desires and organizational missions because the stated organizational mission either intends to significantly benefit society (i.e., mission valence) or closely reflects their personal preferences and interest (i.e., mission salience). Smith (2016) suggests that self-concordance (salience) and positive social impact (valence) are two underlying mechanisms that contribute to the positive relationship between mission match and individual productivity. We expect the same in terms of persistence. Unfortunately, their inclusion is not accommodated in extant measures of mission match. Here, we sum the two items together and center the resulting variable at its grand mean for more easily interpretable results. As table 1 shows, the mean of our summated mission match scale is 10.5, with a standard deviation of 2.9.

At this point, it is important to note that the concept of "supplementary person-organization fit," coined by Kristof-Brown, Zimmerman, and Johnson (2005), should not be perceived as an interchangeable concept with "mission match." Kristof-Brown, Zimmerman, and Johnson consider that (1) the emphasis of person-organization fit lies in the "compatibility between commensurate individual and the organizational characteristics (2005, 285) and that (2) "achieving supplementary fit is one way to have personal needs met" (288). Taken together, supplementary person-organization fit is attainable only when the characteristics possessed by organizations are able to satisfy the needs of their internal members. To a considerable extent, supplementary person-organization fit is a more self-centered concept that focuses heavily on whether the demands of "individuals and the environment [organizations] are similar" (Kristof-Brown, Zimmerman, and Johnson 2005, 288).

Mission-matched individuals are expected to feel fulfilled in their jobs when they are convinced that either the achievement of organizational mission is beneficial to society (i.e., positive social impact) or the daily work they are required to perform is consistent

Table 1 Descriptive Statistics

	Mean	SD	Min.	Max.
# of SRTTs	1.9	1.2	1	10
Self-sacrifice	17.5	5.1	4	28
Mission match 1	4.9	1.7	1	7
Mission match 2	5.5	1.4	1	7
Mission match sum	10.5	2.9	2	14
Self-determination sum	10.9	3.7	5	23
Goal distance	607	2,968	84	57,251
Republican	0.32	0.47	0	1
Political ideology	3.3	1.7	1	7
Public sector job	0.24	0.43	0	1
Private sector job	0.36	0.48	0	1
Nonprofit sector job	0.03	0.18	0	1
Self-employed	0.19	0.39	0	1
Unemployed	0.11	0.32	0	1
Retired	0.03	0.17	0	1
Student	0.08	0.27	0	1
Other occupation	0.03	0.16	0	1
Male	0.53	0.50	0	1
Age	35.8	11.1	18	75
Education level	4.0	1.2	1	6
HITs working on now	1.3	1.3	1	15
HITs average per day	12.5	3.1	1	15
HITS today	7.3	4.9	1	15

$N = 583$.

with their true interests and values (i.e., self-concordance) (Smith 2016). The conceptual boundaries of "mission match" are more narrowly defined by the purposiveness of the organization, not by the environment that the organization creates. Indeed, Kristof-Brown, Zimmerman, and Johnson (2005) admit to the difficulty of operationalizing the supplementary fit construct because of the many organizational characteristics and their relative ambiguity in prioritization these characteristics might have to a given individual. In this sense, "organizational mission" can be more easily identified by individual respondents.

Self-Sacrifice

We use four items from Coursey et al.'s (2008) scale to measure the self-sacrifice dimension of public service motivation. These items are as follows: (1) "Much of what I do is for a cause bigger than myself"; (2) "I am one of those rare people who would risk personal loss to help someone else"; (3) "Making a difference in society means more to me than personal achievements"; and (4) "I think people should give back to society more than they get from it." Response options for all four range from 1 = "strongly disagree" to 7 = "strongly agree." It is important to note that Coursey et al.'s (2008) scale includes 12 items (our subjects responded to all of these items) and that Coursey et al.'s (2008) factor analytic examination of these 12 items yields three separate dimensions of PSM, which those authors call "self-sacrifice," "commitment to public service," and "compassion."

While our pretreatment questionnaire included all 12 of the items that make up Coursey et al.'s (2008) PSM scale, our analysis focuses exclusively on PSM's self-sacrifice dimension because our theory maps most closely to this particular subdimension of public service motivation. We are interested in whether a general other-regarding orientation to the world reinforces the relationship between a more specific other-regarding attitude—an attitude focused on the mission of a particular organization—and persistence in prosocial work effort. As Perry, Hondeghem, and Wise note, "PSM has

its roots in other orientation" (2010, 682).[4] And as Ward notes, the public administration literature has recently converged on a "contemporary view of PSM as an 'other-regarding' orientation (i.e., a willingness or desire to put the needs of society before the needs of the self)" (2014, 115). We think that PSM's self-sacrifice subdimension, more than its other subdimensions, most closely reflects this contemporary view of public service motivation as a motivational force that is fundamentally other-regarding in nature. To measure self-sacrifice, we sum Coursey et al.'s (2008) four self-sacrifice items and center the resulting variable at its sample mean (i.e., between-subject centering). As table 1 shows, the mean of this variable is 17.5, with a standard deviation of 5.1.[5]

Persistent Prosocial Work Effort

After answering these pretreatment questions, subjects completed a simple reaction time task (SRTT). Our reaction time task consisted of 20 total trials—that is, 20 total red circle flashes. We measure subjects' performance by averaging their reaction speed—that is, how quickly they pressed the spacebar after the red circle appeared on their screen—over the 20 trials. Next—and this is a key part of our design—subjects were told how well they performed (e.g., "Your average reaction time was 0.18 seconds") and presented with two options. The respondent could repeat the task in an attempt to earn money for a randomly assigned charity (of the five listed earlier). We told subjects that if they achieved the 99th percentile of performance on this task (an average reaction time of 0.15 seconds),[6] we would donate $10 to their randomly assigned charity. Alternatively, the respondent could move on to the final part of the experiment, which consisted of a post-treatment questionnaire.

We are interested primarily in whether subjects with high randomly induced mission match are more likely to repeat the task than subjects with low randomly induced mission match (with PSM's self-sacrifice dimension expected to strengthen this relationship). Since subjects bear opportunity costs by repeating—MTurk workers could be completing other tasks for money or tending to their personal interests instead of spending extra time on our experiment—the decision to repeat has real consequences, eliminates the possibility of egoist-driven behavior to the extent possible, and therefore is altruistic or prosocial in the sense that it does nothing to directly or materially benefit the subject (Batson 2014).

Prosocial work behavior is any work behavior that is intended "to promote the welfare of their targets, including customers, coworkers, and the organization as a whole" (Kell et al. 2014, 312, citing Brief and Motowidlo 1986) and "covers the broad range of actions intended to benefit one or more people other than oneself— behaviors such as helping, comforting, sharing, and cooperating" (Batson and Powell 2003, 463). This can include altruistic behavior, but it does not have to intend self-sacrifice. Nonetheless, standard definitions of altruistic behavior are at least correlate to what we measure as persistence of prosocial work effort. Ben-Ner and Kramer, for instance, define altruistic behavior as follows: "Altruistic behavior is a sacrifice of one's resources for the benefit of others, representing a tradeoff between one's self-interest and regard for others. Resources can include time (helping an elderly person cross the street, visiting a sick relative), money (donating money to a religious organization), or flesh (donating blood, plasma or organs)"

(2011, 216). In the case of our experiment, subjects were sacrificing both time and money in that they traded time to continue playing our game for the benefit of a charity—time that could be used to earn money on other spot labor contracts.

Prosocial work behaviors are not conceptually distant from organizational citizenship behaviors, defined as "engaging in task-related behaviors at a level that is so far beyond minimally required or generally expected levels that it takes on a voluntary flavor" (Podsakoff et al. 2000, 518). Moreover, OCB scholarship generally acknowledges the positive implications of helping others as the scholarship on prosocial work does. While OCB is a similar construct, it differs in some details in that it can be directed more inwardly or toward organizational processes rather than the purposive intent to help others (Van Dyne, Cummings, and Parks 1995).

We cannot completely rule out that the subject can derive benefits through ostensible generosity. As Schenck (1987) and others argue, intrinsic altruism may be conflated with narrow self-interest under considerations such as the recipient of that altruism. When one's ostensible generosity is received by those who share something with the benefactor such as ethnicity, family, or immediate interests, this may be more "restricted altruism" than the purer notion of altruism in which the universal good of society is the driving motivational goal of such behaviors (Salter 2006). We believe this is what we get at, to some extent, in our treatment of mission match. Therefore, accepting altruistic behavior as prosocial behavior allows us to avoid separating altruism from egoism (Krebs 1991).[7]

Additional Variables of Potential Interest

It is important to outline the variables that we include in additional models that also may be of theoretical or substantive interest. First, there could be some concern that the mission of an organization aligns with a respondent's ideological orientation or partisan identification. Or, a person's public service motivation could be correlated with their ideology. Although there is no evidence of this in pairwise correlations, it is important that we account for these potentially countervailing explanations in robustness checks.

Second, many of the subjects may not use MTurk as their sole source of income. Some may use it in their spare time as supplementary income. Therefore, we asked the respondents to characterize their employment status (i.e., retired, unemployed, self-employed, student) or their occupation by sectoral orientation (i.e., public, private, or nonprofit). Third, we include variables for the actual task environment in which MTurk workers operate. MTurk workers' commitment to the MTurk platform on any given day will vary. After all, it is a spot labor market in which a worker can choose whether to take on any one-shot contract or "human intelligence task" (HIT), as these tasks are called in the MTurk environment. MTurk workers may use the platform as their main source of income, in which case they are likely to perform several HITs every day. Others may only perform HITs from time to time for extra money. Thus, the motivation to move on from our task to another opportunity for remuneration should be taken into account.

Also, like many employees in traditional organizational settings, some MTurk workers may actually be engaged in more than one task at any given time, thereby decreasing the likelihood that proper attention is paid to the SRTT and thereby decreasing the likelihood that a subject might choose to repeat the task. Additionally, workdays will vary among our subjects. For instance, some may just be beginning their day on the platform as others may be near the end of the time they are expecting to devote to fulfilling HITs. Therefore, we asked the subjects to report the number of HITs they do in an average day, how many they had completed the day they performed our HIT, and the number of HITs they were carrying out simultaneous to our own.

Although the SRTT seems to be an unexceptional exercise in terms of both entertainment value and complexity (and we purposely chose the exercise on that basis to protect from any intrinsic value of the exercise itself), the subject still may be motivated by the challenge itself. Therefore, the self-determination of the respondent and the feasibility of goal attainment are both important factors to consider in this experiment as well. Self-determination theory suggests that there are differential determinants of intention that have important motivational implications, and therefore the theory distinguishes between two distinct types of motivation: autonomous and controlled. "Autonomous motivation involves intentions that are experienced as self-chosen and emanating from self, whereas controlled motivation involves intentions that are initiated and pursued because of external factors (such as social pressure from significant others)" (Abraham and Sheeran 2003, 275).

According to self-determination theory, work efforts should be more likely when the motivation is autonomous rather than when motivation is controlled (Abraham and Sheeran 2003). To account for individual differences in self-determination, we borrow five items from Sheldon and Deci's (1993) self-determination scale. For each item, participants were asked to indicate which of two statements was more true for them (e.g., "A. I do what I do because it interests me. B. I do what I do because I have to"; see Appendix A online). After recoding reversed items, we use iterated principal factor analysis to generate a factor score (SDT). Positive SDT scores indicate autonomous work motivations, whereas negative scores indicate more controlled work motivations.

Finally, the relative distance of the respondent's baseline score (i.e., performance on the first SRTT) from the expected performance threshold may be an important determinant of the number of times a person attempts the SRTT on behalf of a given charity. Evidence is mixed on the challenge of goal attainability to inducing work efforts (Garland 1983; Locke and Latham 1990; Ritz, Brewer, and Neumann 2016; Vohs, Park, and Schmeichel 2013). Therefore, we include a measure of "goal distance" to account for task difficulty. The larger the distance, the less likely we believe the subject is to continue attempting another SRTT. Table 1 provides descriptive statistics for all measures included in our models.

Results

As noted earlier, we are primarily interested in whether subjects voluntarily repeated our simple reaction time task to try to earn money for charity. After their first time completing the task, subjects could choose to repeat up to nine times, for a total of 10 possible completions. Recall that subjects' goal was to achieve an average reaction time of 0.15 seconds. If they achieved this goal, they were automatically passed to the final part of our experiment

(the post-treatment questionnaire). Table 2 shows the distribution of task repeats. As the table shows, about 49% of subjects completed the task only once—that is, they chose not to repeat. About 28% of subjects repeated once for a total of two completions; about 16% repeated twice; and about 6% repeated three times or more. Although not noted in the table, none of our subjects achieved an average reaction time of 0.15 seconds.

In table 3, we provide the output of two negative binomial regressions. In the first, mission match and public service motivation are not interacted; in the second, they are interacted. Both models include all of the controls listed earlier, as well as

demographic controls and an indicator for the charity to which a subject was assigned.[8]

We note first that both mission match and public service motivation are positive and statistically significant in the first model, implying that increases in each are associated with increases in the number of times subjects chose to repeat our simple reaction time task. Model II shows that when we interact mission match and public service motivation, the resulting coefficient is not statistically significant; moreover, model II's mission match and public service motivation coefficients remain positive and statistically significant and are quite similar in magnitude to model I's coefficients. Our results, then, provide evidence that mission match and self-sacrificing PSM are both associated with persistence, but there is no evidence that public service motivation moderates the relationship between mission match and persistence.[9]

Because negative binomial regression coefficients represent the relationship between an independent variable and the log count of events—a quantity that is intuitively difficult to grasp—figure 1 presents a series of predicted counts to make our results more understandable (see King, Tomz, and Wittenberg 2000). The figure's cells show the predicted count of SRTT repeat attempts at a given level of mission match and PSM (self-sacrifice), holding the remaining variables in our fully specified model constant at their mean values. For instance, the figure's top-left cell shows the predicted number of SRTT repeat attempts when mission match and PSM are both set to one standard deviation below their respective means and our model's control variables are held constant at their mean values. When this is the case, our model predicts that subjects will repeat our timed reaction task 0.50 times. Note that the brackets that appear below this prediction contain its 95% confidence interval. Note also that the darkness/lightness of a cell's shading reflects its predicted count, with higher counts being shaded more darkly.

Examining figure 1 more closely gives us a sense of the magnitudes of mission match and self-sacrifice effects on persistence. Moving
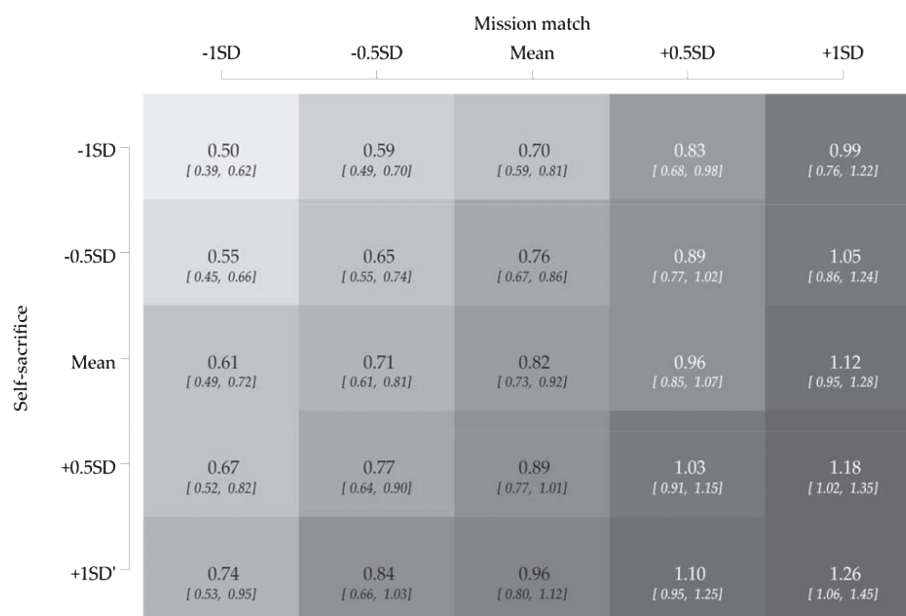
Table 2 Times Task Completed

# Times	Freq.	Percent
1	284	48.71
2	165	28.30
3	94	16.12
4	23	3.95
5	6	1.03
6	8	1.37
7	1	0.17
9	1	0.17
10	1	0.17

$N = 583$.

Table 3 Negative Binomial Regression Results

	Model I	Model II
Mission match	0.305***	0.306***
	(0.0652)	(0.0648)
Self-sacrifice	0.154**	0.161**
	(0.0580)	(0.0595)
Mission match * Self-sacrifice		−0.0373
		(0.0557)

$N = 583$
Standard errors in parentheses; fixed effects for charities included in model.
*$p < .05$; **$p < .01$; ***$p < .001$.

Figure 1 Predicted Counts of Persistence in Prosocial Work Effort

from left to right along a given row of the figure shows how mission match affects predicted repeats at a particular level of self-sacrifice. Moving from top to bottom down a given column of the figure shows how self-sacrifice affects predicted repeats at a particular level of mission match. For instance, moving from left to right along the figure's top row tells us that when self-sacrifice is held constant at one standard deviation below its sample mean value, a two-standard-deviation increase in mission match (i.e., moving from one standard deviation below the mean to one standard deviation above the mean) is associated with an increase in predicted game plays of 0.49 (0.99–0.50). Moving from top to bottom down the figure's leftmost column tells us that when mission match is held constant at one standard deviation below its mean value, a two-standard-deviation increase in self-sacrifice is associated with an increase in predicted game plays of 0.24 (0.74–0.50). (The confidence intervals that appear in each cell are intended to convey a sense of the uncertainty of our predictions. Although they can be inspected to make rough judgments regarding whether two cells' respective predicted counts are statistically significantly different, they do not yield the same results as a formal *t*-test. Examining whether two 95% confidence intervals overlap is a more conservative approach than making a judgment about statistical significance using a *t*-test.)

Discussion

We emphasize two patterns that emerge in our analysis. First, mission match's effect on persistence is about twice the size of the effect of self-sacrifice on persistence. As noted earlier, whereas a two-standard-deviation increase in mission match is associated with an increase in predicted game plays of 0.49, the same increase in self-sacrifice is associated with an increase in predicted game plays of 0.24. This is the case regardless of which column or row one inspects on figure 1. For instance, moving from mission match's mean to one standard deviation above its mean (and holding self-sacrifice constant at its mean) is associated with an increase in predicted game plays of 0.14 (0.96–0.82). By contrast, moving from the self-sacrifice mean to one standard deviation above its mean (and holding mission match constant at its mean) is associated with an increase in predicted game plays of 0.07 (0.89–0.82). Although this is a simple finding, it suggests that subjects' narrow identification with the mission of the particular organization on whose behalf they are playing is a more important determinant of persistence than a more broad-based, other-regarding orientation to the world.

Second, self-sacrifice does not moderate the effect of mission match on persistence. We pointed this out earlier when discussing our estimated negative binomial coefficients, but it is worth illustrating it here by noting that the effect of mission match on persistence— that is, the effect of left to right movement along any given column of figure 1—is the same for all columns. Whether self-sacrifice is set to a value that is one standard deviation below its mean or one standard deviation above its mean (or 0.5 standard deviations above its mean, etc.), the effect of mission match is nearly the same. In short, self-sacrifice does not appear to reinforce the relationship between mission match and persistence.

We believe these findings are a novel contribution to the scholarship on mission match and prosocial work efforts more generally. First, we exploit a fuller range of organizations on whose behalf subjects

are asked to exert effort. The limited real-effort experiments with random organizational mission assignments use only two organizations. Smith (2016) is the only other researcher to use organizations with social missions in such a randomized treatment. However, whereas Smith employs two diametrically opposed organizations, we exploit a fuller range of potential substantive concerns to our subject pool. In addition, we introduce the constant of unreasonable work expectations, thereby providing a very conservative estimate of prosocial work effort.

This study offers a set of propositions related to mission match that have not been tested and uses a particularly apt platform for running experiments in studies of prosocial work motivation and behavior (Chandler and Kapelner 2013; Levitt and List 2007, 2009; Stritch, Pedersen, and Taggart 2017). We ask whether mission match motivates individuals to persist in prosocial work efforts in the face of repeated failure. The theoretical point of departure for our study from others lies in the presumption that the agents who (1) identify highly with the mission of their organizations and (2) report high levels of self-sacrifice (through a moderating effect) are most likely to persist in work efforts even under infeasible performance expectations. Other studies feature one-off tasks that prevent an understanding of how failure might affect persistence. We, on the other hand, allowed the respondents repeated attempts to work toward a real and direct donation ($10) to the randomly assigned organization, which we take as real monetary stakes.

Whereas other studies of mission match use college student subjects, we approximated a true work environment by leveraging the MTurk spot labor market for our subject pool. Since subjects bore opportunity costs by repeating—MTurk workers could be completing other tasks for money or tending to their personal interests instead of spending extra time on our experiment—the decision to repeat had real consequences. The subjects were paid for their efforts only up to the offer to work for the randomly assigned organization. Therefore, they could exit for the same compensation at any time. Because the subjects could work toward a real and direct donation ($10) to the randomly assigned organization, there were real monetary stakes in this exercise.

By design, our subjects were performing a task that comprises a part of their respective workday. Because of the nature of the spot labor market in which we conduct this experiment, it is quite reasonable to assume that subjects' performance of the task was grounded in their material self-interest through direct remuneration. Additionally, our subjects had complete agency over the task they chose (i.e., whether ours or others available in the MTurk market) and (once ours is selected) whether to continue the task without additional remuneration (or exit with the original remuneration). Thus, the one-shot nature of the task in the MTurk market protects from both competing reputational effects and the likelihood that subjects would persist other than as a prosocial expression.

Conclusion

Before researchers can speak to why some public and nonprofit employees are able to persist in their prosocial work efforts, we have to be able to say with some confidence what basic theoretical mechanisms are at work. In this study, we provide a straightforward but internally robust research design that provides an indication as

to what those mechanisms are. We hope results from this study will provide a basis for research set in real-world policy settings.

Related to this point, it is important to note that our study is primarily focused on unpacking the causal mechanism of mission match on persistent work effort. We acknowledge that the spot-labor nature of the MTurk environment is a significantly different form of work contract from what is performed in the public or nonprofit labor markets. As an experimental study, our focus is on the internal validity of our causal claims rather than the external validity. We argue that much work has been focused on the latter rather than the former, and our study helps correct for this imbalance and give clarity to the causal claims.

Our study has a few important limitations. First, we had subjects rate the missions of five nonprofit organizations in close succession, and so it is possible that our measure of mission match captures an enthusiasm for the mission of public-purpose organizations generally instead of subjects' more specific feelings about the organization on whose behalf they were playing. In other words, the mission match variable might be measuring a general prosocial attitude rather than a match with a specific organization's mission. In our approach, we did not randomly assign subjects to different levels of mission match. Instead, we randomly assigned subjects to one of five nonprofit organizations whose missions subjects had been pre-rated, with random assignment occurring independent of their mission ratings. One approach future studies that build on ours might take would be to allow a random subset of subjects to choose (from a menu of nonprofit organizations) the organization for which they will work while forcing one or more other random subsets to work for an organization of the experimenter's choosing. Another approach would be to randomly assign subjects to a nonprofit organization based on their pre-ratings of a menu of organizational missions. In this approach, subjects would rate the missions of, say, five nonprofit organizations. One subset of subjects would then be randomly assigned to the organization whose mission they rated most favorably. Another subset would be randomly assigned to the organization whose mission they rated second most favorably, etc. In other words, random assignment of subjects would be determined by *within-subject* variation in subjects' mission ratings. Whatever approach future studies might use, this strikes us as a research design choice that merits further attention.

A second limitation is that we use a particular measure of public service motivation in our study—the self-sacrifice dimension of Coursey et al.'s (2008) 12-item scale. Given that scholarly debates about the measurement of public service motivation are ongoing (see, e.g., Wright, Christensen, and Pandey 2013), we would encourage future studies that build on ours to consider focusing on other subdimensions of public service motivation or using a global measure of public service motivation instead of a narrower subdimensional measure (although we note again that using all 12-items of Coursey et al.'s [2008] scale instead of the four items that measure self-sacrifice does not change our results). As Ritz, Brewer, and Neumann (2016) emphasize, one benefit of laboratory experiments that incorporate measures of public service motivation is that their results speak to the validity of different measures of a construct that is of considerable importance in the public administration literature.

Despite the foregoing limitations, we believe our findings have important relevance to both public administration research and practice. Orienting and screening employees in line with the prosocial mission of the organization can increase the persistence of employees' prosocial work behaviors—an outcome critical to public and nonprofit organizations (Christensen, Paarlberg, and Perry 2017). Moreover, our results suggest that specific identification with an organization's mission is more substantively significant in prosocial work than more broad based other-regarding orientations to society, such as self-sacrifice. The present analysis provides an initial attempt at unpacking the causal mechanisms at work in the relationship between these drivers and prosocial work behaviors.

Notes

1. For more information on ethical pay in the online spot-labor market, see http://wiki.wearedynamo.org/index.php?title=Fair_payment#What_is_ethical_pay_for_Turkers_in_studies.3F.
2. Due to missing data, our final sample size is 583.
3. See http://www.charitynavigator.org/index.cfm?bay=content.view&cpid=1287&print=1.
4. Importantly, Perry, Hondeghem, and Wise (2010) are careful to distinguish PSM from self-interest, prosocial motivation, and intrinsic motivation: "Because PSM has its roots in other orientation, it is conceptually distinct from self-interest, which is rooted in self-concern (De Dreu 2006), and from intrinsic motivation (Grant 2008). De Dreu argues that self-concern and other orientation are orthogonal and unipolar, meaning that they are independent and vary from low to high. Grant observes that prosocial motivation and intrinsic motivation differ in that intrinsic motivation emphasizes pleasure and enjoyment as drivers of effort, but prosocial motivation emphasizes meaning and purpose as drivers of effort. The pursuit of public service motives is not contingent on feelings of pleasure or enjoyment" (2010, 682).
5. The mean of the distribution for the four-item self-sacrifice measure is 17.5 and its median is 17, suggesting minimal skewness. Additionally, we note that the 10th, 25th, 75th, and 90th percentiles are as follows: 11, 14, 21, and 24. Given the shape of this distribution, we think it is reasonable to infer a meaningful high/low distinction. It does not appear that subjects were systematically responding to social desirability cues. Examining the distributions of the public service motivation measures collectively yields the same conclusion.
6. Percentiles were determined by a pretest of this task by 100 subjects.
7. It might also be argued that repeated tasks lose their entertainment value, so the findings may be less about persistence and more about diminishing entertainment utility. To protect from this possibility, we chose a task that we felt, on its face value, was particularly dull. Moreover, we asked subjects in a post-task questionnaire why they decided to quit. Subjects selected from among nine response options (including an open-ended "other" option). If diminishing entertainment utility was a factor, we would expect option 6—that the task was boring—to be a common choice. But only five subjects selected this choice. The most frequent response was option 2, with 230 subjects selecting it. This suggests an unwillingness to persist in the face of frustration was more a reason for subjects' quitting decisions than diminishing entertainment value.
8. Coefficients for control variables are provided in Appendix C online.
9. If we measure public service motivation using all 12 items that appear in Coursey et al.'s (2008) scale, our results are nearly identical. In a model that does not include their interaction, mission match and public service motivation have coefficients of 0.29 ($p < .01$) and 0.17 ($p < .01$), respectively. In a model that does include their interaction, mission match, public service motivation, and their interaction have coefficients of 0.29 ($p < .01$), 0.18 ($p < .01$), and -0.038 ($p = .47$), respectively.

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Supporting Information

A supplementary appendix may be found in the online version of this article at http://onlinelibrary.wiley.com/doi/10.1111/puar.12882/full.