Public Service Motivation as a Predictor of Corruption, Dishonesty, and Altruism

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ABSTRACT: Understanding how Public Service Motivation (PSM) is tied to ethical or unethical behavior is critically important, given that civil servants and other public sector employees throughout the world have been shown to exhibit high PSM levels. However, empirical evidence about the relationship between PSM and ethical conduct remains limited, due in part to the challenges of observing illicit behaviors and overcoming social desirability bias in self-reported measures. We address these challenges by employing incentivized experimental games to study the relationships between PSM and corruption, dishonesty, and altruism. Based on data from approximately 1870 university students at three research sites in Russia and Ukraine, we find evidence of a robust negative association between PSM and willingness to engage in corruption and a positive association between PSM and altruistic behavior. Results concerning dishonesty are more mixed. Our extension of the study of PSM to Russia and Ukraine additionally offers the opportunity to analyze the role of PSM in a context in which citizens’ understandings of the “public interest” are in flux and corruption and rule breaking are widespread.

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Are individuals with high levels of Public Service Motivation (PSM) less willing to engage in corruption, less likely to behave dishonestly, or more likely to exhibit altruism? Since Perry & Wise’s (1990) seminal formulation of the concept of PSM, scholars of Public Administration have recognized that some individuals are motivated less by self-interest and more by a desire to contribute to the public good, help others, or improve society. And given that a number of the values underlying PSM – compassion, social justice, self-sacrifice – also are the bedrock for ethical behavior (Maesschalck et al. 2008), it follows that high levels of PSM are likely to be associated with ethical conduct. Conversely, it would seem reasonable to expect low levels of PSM to be associated with unethical conduct.

Whether PSM levels predict individuals’ propensity for ethical or unethical behavior has important policy implications, for abundant evidence suggests that civil servants and other public sector employees have higher levels of PSM than their private sector counterparts (see, e.g., Crewson 1997; Houston 2000; Lewis & Frank 2002) and that university students with high PSM levels are more likely to aspire to public sector careers (see, e.g., Vandenabeelee 2008; Liu et al. 2011; Carpenter et al. 2012; Clerkin & Coggburn 2012). Yet due to a dearth of Public Administration research on ethical and unethical conduct, empirical analysis evaluating propositions about PSM’s relationship to ethical behavior is only beginning to emerge.¹ Early evidence of a link between PSM and ethical conduct was indirect, such as Brewer & Selden’s (1998) study showing that federal employees’ motivations for reporting rule violations (i.e., whistle blowing) are more consistent with a theory of PSM than with competing theories. Later studies that examined the correlation between direct measures of PSM and ethical behavior relied on self-reported activities such as volunteering, charitable contributions, or donating blood (e.g., Houston 2005; Coursey et al. 2011; Wright et al. 2016), leaving open the possibility that

¹ See Belle & Cantarelli (2017) for a recent review of the Public Administration literature on unethical conduct.
these measures suffer from respondents’ inclination to exaggerate their engagement in activities perceived as socially desirable. Meanwhile, because of the challenge of observing or collecting accurate self-reported data on illicit behavior, the small handful of studies that have investigated the relationships between PSM and unethical or corrupt practices have relied on hypothetical vignettes (e.g., Lim Choi 2004; Kwon 2012). Consequently, despite these studies’ important contributions, nearly all existing PSM-related research on ethical or unethical conduct falls short of offering evidence regarding the relationships between PSM and observable behavior.

In this article, which draws on three studies conducted with approximately 1870 university students in Russia and Ukraine, we address the challenges of social desirability bias and the difficulties inherent in measuring illicit behavior by employing incentivized experimental games. Frequently used by behavioral economists, these games offer subjects cash payments, the value of which is conditional on choices made during the study, to elicit observable behavior indicative of revealed preferences. First, to measure subjects’ propensity to engage in corruption, we utilize a modified version of a laboratory bribery game developed by Barr & Serra (2010). The bribery game captures the multi-dimensional nature of a bribe transaction, such as the need to find a willing bribe partner, the harm incurred to other members of society, and the moral element of engaging in an act explicitly labeled as a “bribe.” Second, we utilize a dice task game developed by Barfort et al. (2019) and Olsen et al. (2019) to measure dishonesty. This game requires subjects to repeatedly guess the outcome of a dice roll. The subject earns three times as much for correct guesses as for incorrect guesses, and the game’s setup presents participants with the opportunity to earn more money by dishonestly exaggerating the number of correct guesses reported. A comparison of the observed distribution of an individual’s correct guesses over 40

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2 Two recent and important exceptions, Esteve et al. (2016) and Olsen et al. (2019), are discussed below.
3 Barfort et al. (2019) and Olsen et al. (2019) were conducted by the same research team with overlapping samples of Danish university students. The two studies, however, focus on different research questions and accordingly we cite each study separately at points throughout this article.
repeated dice rolls to the expected distribution of an honest individual allows for estimation of each subject’s cheat rate. Finally, following studies such as Banuri & Keefer (2016), Hanna & Wang (2017), and Barfort et al. (2019), we measure altruism using a modified dictator game in which subjects are given an initial endowment and then must choose how much of the payment to keep for themselves and how much to donate to local charities. The game therefore presents subjects with a real-world tradeoff between their personal financial wellbeing and the opportunity to help others at one’s own expense. As we discuss below, the external validity of all three games has been demonstrated in various settings, indicating that subjects’ choices in these experimental games reflect choices made in real-world situations.

Using the 16-item PSM scale developed by Kim et al. (2012), we find a robust negative correlation between PSM and propensity to engage in corruption and a robust positive correlation between PSM and altruistic behavior. These findings are robust controlling for potentially confounding factors such as gender, risk aversion, ability (measured by self-reported GPA), class year, academic field of study, family income, parental occupation, religiosity, and size of participants’ childhood city of residence. Moreover, our use of data from three distinct research sites – and the notable consistency of our results across three subject pools – attests to the robustness of our findings in a way that research conducted at a single site could not. By contrast, while we find that PSM is negatively correlated with dishonesty, the correlations are substantively small and statistically insignificant once we control for potential confounders.

These findings are most closely related to two recent studies, Esteve et al. (2016) and Olsen et al. (2019). The former shows a positive correlation between PSM and pro-social behavior measured by contribution levels in a public goods game conducted with university students in the Netherlands; the latter finds a negative correlation between PSM and dishonesty as measured by

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4 The Kim et al. (2012) scale builds on Perry’s (1996) original PSM scale but was designed by an international team of scholars to account for cross-cultural distinctions.
a dice task game conducted with university students in Denmark. However, our research advances the literature in several important ways. First, this article is one of only a handful of studies to explicitly investigate the relationship between PSM and corruption and the first to do so using an experimental measure of corrupt behavior. Additionally, unlike existing studies of PSM and corruption, we employ a direct, comprehensive, and validated measure of PSM. Second, our reliance on multiple experimental games, rather than a single experimental task, allows us to disentangle related yet conceptually distinct types of unethical behavior – such as corruption and dishonesty – and analyze PSM’s relationships with each. If we had only employed the dice task game, we would have found no relationship between PSM and unethical behavior in the form of dishonesty, in direct contrast to Olsen et al.’s (2019) results. But our more nuanced finding of a weak relationship between PSM and dishonesty yet also a robust negative association between PSM and willingness to engage in corruption suggests that individuals with high PSM may be particularly averse to behaviors that undermine the public interest or cause harm to others. Our findings also call into question earlier studies’ tendency to employ indicators of dishonesty as proxies for willingness to engage in corruption.

Finally, the stark contrast of our research environment in Russia and Ukraine to the research environment of these earlier studies facilitates analysis of how PSM operates outside of North America and Western Europe. Whereas PSM has been extensively studied in the Western context, much less is known about PSM in developing and transition countries where different understandings of the “public interest” or the “public good” may predominate and where corruption – the abuse of public office or resources for private gain – frequently is widespread. The post-Soviet region presents a particularly tough test of the generalizability of earlier PSM studies, given that historical traditions in the region emphasize state service to Tsars or the

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5 Kwon (2012), for example, analyzes the relationship between PSM and corruption but uses an indicator of a related yet distinct concept – intrinsic motivation – as a measure of PSM.
Communist Party rather than public service to fellow citizens; a tumultuous transition in the 1990s upended moral frameworks and created confusion about the meaning of concepts such as the “public good”; and corruption is extensive.⁶

The following section examines the existing literature on PSM and its relationships to corruption, dishonesty, and altruism in greater detail. We then turn to discussion of our research design before presenting our results.

**Theory**

Public Service Motivation (PSM) frequently is defined as individuals’ predispositions for responding to motives related to the well-being of others, the public interest, and the improvement of society as a whole (Perry & Wise 1990), or in the words of Vandenabeele (2007, 547) “the beliefs, values, and attitudes that go beyond self-interest and organizational interest, that concern the interest of a larger political entity and that motivate individuals to act accordingly whenever appropriate.” In accordance with Perry & Wise’s (1990) initial formulation, scholars frequently conceive of PSM as a multi-dimensional concept, combining a foundational dimension of Self-Sacrifice with rational, norm-based, and affective elements – which Kim et al. (2012) refer to as Attraction to Public Service, Commitment to Public Values, and Compassion, respectively.⁷

Following Schott et al. (2019, 1201), we emphasize that PSM is distinct from related concepts such as pro-social motivation. Whereas PSM-motivated individuals seek to benefit

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⁶ To emphasize the contrast between the setting of our study and earlier studies, consider Denmark and the Netherlands, the sites of the Olsen et al. (2019) and Esteve et al. (2016) studies, respectively. Denmark is among the least corrupt countries in the world, ranking either first or second out of 180 countries and territories in Transparency International’s Corruption Perceptions Index (TI-CPI) every year between 2016 and 2018. During this three-year interval, the Netherlands consistently ranked eighth. On the other end of the spectrum, Russia’s rankings ranged between 131th to 138th; Ukraine’s, from 120th to 131th. See www.transparency.org/research/cpi/overview.

⁷ We use the terminology of Kim et al. (2012) rather than the original Perry (1996) index given that we employ Kim et al.’s index in our empirical analyses below.
society at large and serve abstract ideals such as the “public interest,” pro-socially-motivated individuals more narrowly seek to benefit people with whom they come in contact and/or the organizations of which they are a part. As discussed in subsequent sections, this distinction is important with respect to how we delineate the relationships between PSM and corruption from PSM and dishonesty, as well as how we choose the type of experimental games to employ and why these choices distinguish our study from earlier work (e.g., Esteve et al. 2016).

We focus foremost in this study on the relationships between PSM and corruption because the deleterious effects of corruption are well-established and because PSM seems particularly antithetical to corruption, even more so than to other unethical behaviors.\(^8\) Corruption is frequently defined as the abuse of public office or resources for private gain (Fisman & Golden 2017, 23-25), which places it directly at odds with the Commitment to Public Values component of PSM. Corruption also causes harm to other citizens, making it incompatible with the Compassion component of PSM.\(^9\) And corruption requires placing self-interest over the public good, in direct contradiction to the Self-Sacrifice component of PSM.

We simultaneously incorporate dishonesty into our study because it has been the focus of one of the few other studies on PSM to utilize incentivized experimental games (Olsen et al. 2019), and because other scholars who have employed dice task games to measure dishonesty frequently imply that measures of dishonesty serve as reasonable proxies for corruption (e.g., Hanna & Wang 2017; Barfort et al. 2019). Yet dishonesty, while clearly an example of unethical conduct, may or may not cause harm to others and does not inherently undermine the public interest. Indeed, high PSM individuals could potentially be more prone to engage in some forms

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\(^8\) Among many other consequences, corruption reduces economic growth and undermines governments’ provision of services and public goods. See Olken & Pande (2012, 491-495) and Svensson (2005, 36-39).

\(^9\) Harm to others caused by corruption range from public safety hazards resulting from firms or individuals bribing inspectors to avoid enforcement of regulations to the loss of public revenues that benefit all citizens resulting from corrupt officials’ theft and embezzlement.
of dishonesty, such as circumventing a rule perceived to be at odds with the public good or lying to compassionately protect a fellow citizen (Schott & Ritz 2018, 37). It is therefore essential to analyze separately the relationships between PSM and corruption and PSM and dishonesty.

Finally, our study seeks to analyze not only the relationships between PSM and unethical conduct but also the relationships between PSM and ethical conduct. We focus on altruism as a critically important form of ethical conduct given that self-sacrifice plays a foundational role in the conceptualization of PSM. Indeed, altruism is so closely linked to PSM that some scholars conflate the two. Yet we agree with Schott et al. (2019, 1203) that altruism is better understood not as a type of motivation but as a class of behaviors defined by an action that provides a benefit to a recipient at a cost to the donor. Conceptualizing altruism as a behavior facilitates empirical analysis of whether the values expressed by individuals with high PSM are associated with observable actions.

**PSM and Unethical Behavior**

There are a number of reasons why individuals with higher PSM levels might be more likely to engage in ethical conduct and less likely to engage in unethical conduct. First, PSM and ethical behavior exhibit a number of shared underlying values, including a focus on fairness, social justice, and self-sacrifice (see, e.g., Maesschalck et al. 2008). Second, defining traits of PSM, such as strong desire to help others and to pursue the greater good even when this requires sacrificing personal interests, are also cornerstones of ethical conduct (Wright et al. 2016, 648-649). Third, individuals with high PSM may be more prone to moral reasoning based on internal virtues rather than external incentives, which may also foster ethical behavior (Stazyk & Davis 2015; see also Lim Choi 2004).

Unfortunately, empirical research on the relationships between PSM and unethical conduct is limited. As a recent review of the literature by Belle & Cantarelli (2017) makes clear, Public
Administration research in general, and research on PSM in particular, rarely has examined the roots of unethical conduct. Public Administration research on corruption is even more scant than analyses of unethical conduct more broadly, as noted in Bozeman et al.’s (2018) recent literature review, and research devoted specifically to PSM and corruption is nearly nonexistent. Kwon’s (2012) study of civil servants in South Korea finds that a concept closely related to PSM – intrinsic motivation – is associated with a lower propensity for corruption, as measured using a hypothetical vignette. Cowley & Smith (2014), meanwhile, show that while intrinsic motivation is higher among public employees relative to private sector workers throughout much of the world, this association is weaker in countries with high levels of corruption. Our study, however, is the first to examine the link between PSM and corruption while utilizing a direct measure of PSM and an indicator of observable behavior related to corruption. In line with broader expectations about PSM and unethical conduct, we test the hypothesis that PSM and corruption will be negatively correlated:

Hypothesis 1: Higher PSM levels will be associated with a lower propensity to engage in corruption.

As discussed above, Olsen et al.’s (2019) recent study finds evidence that PSM is negatively associated with dishonesty among university students in Denmark, as measured by a repeated dice task game. However, per our earlier discussion, we believe that arguments suggesting a negative relationship between PSM and dishonesty are weaker than the case for a negative relationship between PSM and corruption. Indeed, in another recent study, Christensen & Wright (2018) found in laboratory experiments with US university students that priming subjects with exercises known to activate a sense of PSM did not increase willingness to cheat in an incentivized dice task game similar to that used by Olsen et al.\textsuperscript{10} In order to disentangle and

\textsuperscript{10}Note that Christensen & Wright (2018) differs from Olsen et al. (2019) in that the former experimentally stimulated PSM and then compared the behavior of those who had or had not been primed. Olsen et al., by contrast,
evaluate the relationships between PSM, corruption, and dishonesty, we employ the same approach as Olsen et al. (2019). Our replication of their study further allows us to examine whether their findings in the low-corruption context of Denmark generalize to the high-corruption contexts of Russia and Ukraine:

**Hypothesis 2:** Higher PSM levels will be associated with lower dishonesty.

Compared to research on PSM and unethical conduct, there are relatively more empirical studies of PSM and ethical conduct. Until recently, however, studies of PSM and ethical conduct relied on indirect evidence rather than direct assessment of the link between indicators of PSM and pro-social behaviors. Brewer & Selden (1998) demonstrated, for example, that whistleblowers in the federal government are more motivated by regard for the public interest, and less motivated by personal reward or job security, than colleagues who are unwilling to whistle blow. Houston (2005), meanwhile, found that public employees – who in earlier studies had been shown to exhibit higher levels of PSM – are more likely than their private sector counterparts to volunteer for charities or donate blood. More recent work has considered the relationship between various forms of ethical conduct and direct measures of PSM, such as the PSM scale developed by Perry (1996). Lim Choi (2004) demonstrated that U.S. civil servants with higher levels of PSM are more likely to select the moral choice when presented with hypothetical vignettes about ethical dilemmas, while other scholars showed a positive association between PSM and pro-social behavior such as willingness to volunteer (Coursey et al. 2011; Lee & Jeong 2015) or report unethical behavior in one’s organization (Wright et al. 2016). Meyer-Sahling et al. (2019) push this line of research one step further, demonstrating via a survey focus simply on whether individuals with higher PSM are more likely to act dishonestly. Moreover, as Christensen & Wright (2018, 6) recognize, it may be the case that their intervention was ineffective at stimulating PSM. They also note that their null finding may have resulted from unusually low cheat rates in their experiments.
experiment conducted with Chilean government employees that experimentally priming PSM increases employees’ willingness to report ethical problems to management.

Despite these studies’ important contributions, their reliance on self-reported measures of ethical behavior is subject to bias resulting from survey respondents’ efforts to portray themselves in a positive light. Only one study, Esteve et al. (2016), has linked PSM to what they describe as observable “pro-social behavior,” showing that participants with higher PSM contribute more in an incentivized public goods game. But public goods games measure a number of traits. Some of these traits, such as willingness to contribute to one’s community clearly are related to PSM, but others – such as trust and propensity to collaborate – are less directly relevant. The modified dictator game we employ presents participants with a tradeoff between increased personal financial gain and donations to a charity, thereby offering a measure of altruistic behavior that is both more directly tied to key components of PSM such as Compassion and Self-Sacrifice and also more in line with earlier studies that employed non-experimental measures of charitable giving or propensity to volunteer.

Following Esteve et al. (2016) and earlier studies using self-reported behavior, we hypothesize that PSM will be positively correlated with ethical conduct. We again emphasize, however, that whereas these earlier works focused on developed countries, the evidence we present from the distinctively different context of Russia and Ukraine offers a chance to assess the generalizability of theories about PSM and ethical conduct:

Hypothesis 3: Higher PSM levels will be associated with higher levels of altruism.

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1 In a public goods game, participants choose whether to keep their initial endowment or contribute some of their private funds to a public pool. The publicly “invested” funds are increased by a fixed multiplier and then distributed equally among all participants, including those who did not contribute.
How Context Matters: The Post-Soviet Region as a Tough Test of Generalizability

Existing evidence about PSM and ethical or unethical conduct is based overwhelmingly on North America and Western Europe. Beyond offering novel evidence about the relationship between PSM and corruption, as well as new insights into the distinctions between corruption and dishonesty as they relate to PSM, an additional contribution of this article is to analyze these issues in a starkly different context: the post-Soviet region.

Extending the study of PSM to new contexts offers insights into the extent to which findings based on studies conducted in developed countries might generalize to developing or transition countries, and vice versa. Should we expect PSM to operate differently depending on context? With this question in mind, the distinction between pro-social motivation and PSM discussed above becomes particularly relevant. If PSM-motivated individuals seek to serve abstract ideals such as the “public interest,” not merely the people and organizations in their more immediate circles, then contextually specific understandings of these abstract concepts carry great significance. And as many scholars have emphasized, there are numerous ways of interpreting concepts such as the “public good” or “public interest,” many of which vary by country or region (see Vandabalee & Hodegham 2006, 20-21; Schott & Ritz 2018, 31; Ripoll 2018, 27).

There are at least three reasons why the post-Soviet region presents a particularly tough test of earlier PSM studies’ generalizability. First, public officials in this region, and to a lesser extent citizens themselves, traditionally have been expected to serve the interests of the state – first the Tsars and later the Communist Party – rather than the public interest (Hill & Gaddy 2013, ch. 3; Houston 2014). Second, the collapse of the Soviet Union in the early 1990s and the chaos of the ensuing political and economic transition created significant flux in prevailing moral

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12 Meyer-Sahling et al. (2019) focus on Chile. But as they emphasize, Chile is an OECD member, among the most developed of Latin American countries, and known for its low levels of corruption.
13 Although prominent theories of PSM recognize the importance of context, they focus largely on contextual or institutional factors at the individual or organizational level (e.g., Perry 2000, 480-482; Vandenabeele 2007).
frameworks, undermining consensus about the meaning of ideas such as the “public good” (Nezhina & Barabashev 2019, 111-113). And, finally, the post-Soviet region exhibits some of the highest corruption levels in the world, with Russia and Ukraine consistently ranking in the bottom third of prominent cross-national corruption ratings.\textsuperscript{14} Not only does corruption, as noted in the previous section, blur the distinction between private and public interests, but other scholars working on PSM frequently refer to corruption levels when considering the generalizability or substantive significance of their findings. Meyer-Sahling et al. (2019, 451), for example, suggest that Chile’s relatively low corruption rating makes the country “a propitious environment for inferring about the causes of ethical behavior in OECD contexts” and therefore their findings about the relationship between PSM and willingness to report ethical breaches might “travel to other OECD country settings.” Olsen et al. (2019, 573) emphasize that Denmark is a “crucial case” for studying PSM and dishonesty because Denmark “consistently has been found to be one of the least corrupt countries in the world.”

These statements rest on the untested assumption that findings about relationships between PSM and ethical or unethical conduct are \textit{unlikely} to travel from developed, low-corruption contexts to the higher corruption context of developing or transition countries. By integrating the post-Soviet region into these debates, our study allows for evaluation of this assumption.

\textbf{Research Design}

\textit{Sampling and Implementation}

We conducted our studies with undergraduate and masters students at three different sites:

\textsuperscript{14} See, e.g., Transparency International’s Corruption Perceptions Index at transparency.org/research/cpi/overview.
A top-five Russian university located in Moscow, a major regional Russian university, and a Ukrainian legal academy located in a major regional city.\textsuperscript{15} At the two Russian sites, we recruited students using flyers, emails, and classroom announcements by research assistants and also allowed students to invite other students to participate via a module at the end of the survey. The survey and experimental games were conducted online using Qualtrics. To mitigate concerns about participants’ attentiveness in an online study, we employed screener questions (Berinsky et al. 2014). The overall level of attentiveness was high, and results for both studies are robust to the exclusion of inattentive participants. The Moscow study, which was conducted between May 27 and June 15 of 2016, included 804 participants; the regional study, which was conducted between December 8, 2017 and January 22, 2018, included 376.\textsuperscript{16}

For the Ukrainian research site, we recruited a random sample stratified by class year and department using enrollment data provided by the university administration. Research assistants visited classrooms and requested the participation of students from the sample. When students were not present, their names were replaced with the next person on the list until quotas for each department and class year were filled.\textsuperscript{17} Those that agreed to participate were then directed to the university’s computer labs and presented with instructions on the computer screens. The survey and experimental games were again conducted using Qualtrics. The study was carried out between October 25 to November 3, 2017 and included 695 participants.

On average, participants in the Moscow study received the equivalent of approximately 14 USD, participants in the regional study received the equivalent of approximately 9 USD, and

\textsuperscript{15} A pilot study with approximately 175 students was also conducted at a U.S. university located in the Midwest in spring 2015. Notably, the pilot study also produced similar results to those presented below (see Section F of the Online Appendix). However, given that we modified the experimental games prior to launching the study in the post-Soviet region, our findings are not strictly speaking comparable.

\textsuperscript{16} See Section D of the Online Appendix for demographic information about the samples and discussion of the samples’ representativeness of the larger student body.

\textsuperscript{17} Response rates varied by department from 14 percent to 41 percent, with an average response rate for the sample of 27 percent. Students rarely refused to participate, but on any given day for any given classroom a number of students were either absent or in a different location than indicated by the university administration.
participants in the Ukraine study received the equivalent of approximately 4 USD.\textsuperscript{18} It was made clear to participants that the payoffs for each of the experimental games were independent and that their total payoff would be the sum of their earnings from across the games.\textsuperscript{19} All experimental games were conducted at the outset of the study to ensure that responses to survey questions would not influence participants’ choices.\textsuperscript{20} The language of the research instruments in all three studies was Russian.\textsuperscript{21}

Measurement – Experimental Games

A significant challenge for studies of unethical conduct such as dishonesty or corruption is that respondents may be unlikely to offer sincere responses to interview or survey questions. Meanwhile, respondents may be prone to exaggerate self-reported behavior related to ethical conduct. To mitigate these challenges, our study employed experimental games that utilize incentive payments to elicit observable behavior, allowing researchers to make inferences about participants’ preferences from the choices they make when confronted with decisions that lead to real-world financial loss or gain. Three games were employed to measure propensity for corruption, dishonesty, and altruism. The full scripts for all games can be found in Section C of the Online Appendix.

\textsuperscript{18} The average payment size for the Moscow study was set to be roughly equal to payments for similar studies in other major cities (Barfort et al. 2019’s study in Copenhagen, for example, paid an average of 13 USD to participants). For the regional and Ukraine studies, we then adjusted payments in accordance with cost of living and purchasing power in each city vis-à-vis Moscow. We emphasize that the relative stakes within each game (e.g., payoffs for guessing correctly vs. incorrectly in the dice-task game) are held constant across sites. It should be noted that subjects’ choices in many experimental games are surprisingly robust to changes in the stakes. See Olsen et al. (2019, 575) for discussion of dishonesty experiments and Larney et al. (2019) for consideration of dictator games.

\textsuperscript{19} Students in the Moscow study were required to appear in person to present a unique, randomly generated code received at the end of the online study in order to receive their incentive payments. Payments for the regional study and Ukraine study were made via participants’ mobile phones following the study’s completion.

\textsuperscript{20} All participants first engaged in a modified dictator game, then in 20 rounds of the dice task game, then in the bribery game, then in a lottery game measuring risk aversion, and then in another 20 rounds of the dice task game. Survey questions, including items for the PSM scale, then followed.

\textsuperscript{21} The university at which the Ukraine study was conducted is located in a region where Russian is the predominant language and one of the official regional languages.
Bribery Game: The bribery game used in the study builds off of Barr & Serra (2010). Participants were randomly assigned to the role of citizen or bureaucrat and subjects in both roles received an initial endowment of equal value. The citizen then was presented with a scenario in which she could more than double her initial endowment by obtaining a permit. When she seeks to obtain the permit, however, she is denied and informed that to avoid a long and burdensome reapplication process, she may offer a bribe to the bureaucrat. Bribing entails a risk of punishment, so for offering a bribe the citizen loses approximately one-third of the initial endowment, regardless of whether the bureaucrat accepts or rejects the offer. The bureaucrat next decides whether or not to accept the bribe, incurring a fine of approximately two-fifths of the initial endowment for engagement in corruption, a cost larger than that imposed on the citizen to reflect the greater harm done to society when officials act corruptly. If the bureaucrat accepts the bribe, the citizen receives the permit and the correspondingly higher payoff. Additionally, when the citizen offers and the bureaucrat accepts a bribe, then two additional participants (chosen at random) each incur a small loss (approximately one-seventh of the initial endowment), representing the harm that corruption inflicts on society at large.

We constructed payoffs so that participants could, with the aid of a payoff matrix, easily identify the range of bribes that increase the overall payoffs for both the bureaucrat and citizen and therefore should be accepted by participants guided solely by self-interest. However, if the bureaucrat incorporates considerations other than financial payoffs into her decision and rejects the citizen’s offer, the citizen is strictly worse off, receiving a payoff of about two-thirds the initial endowment with which she began the game. The primary indicator of interest for the

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22 To avoid the conflation of risk aversion and aversion to corruption, we chose, following Barr & Serra (2010), not to make punishment probabilistic.
23 We use strategy elicitation for the bureaucrat role, in which the participant indicates whether she would accept or reject each possible bribe amount. After the study concluded, payoffs were determined by randomly sorting participants into pairs of citizens and bureaucrats. This process was made explicit to participants.
purpose of our study was whether an individual offers (in the role of citizen) or accepts (in the role of bureaucrat) a bribe.

**Dice Task Game:** To measure dishonesty, the study utilized the dice task game developed by Barfort et al. (2019) and Olsen et al. (2019). Respondents were asked to imagine a dice roll, guess a number between 1 and 6, and then click to the next screen. On this screen a picture of a dice was shown with a randomly generated outcome. Participants were then asked to record the number they had imagined and then click to the next screen. For correct guesses, participants earned three times more than for incorrect guesses. Since there was no way for our research team to observe participants’ guesses, an incentive existed to dishonestly report guesses that matched the randomly generated outcome in order to increase one’s payoff. Participants engaged in 20 rounds of this exercise at two points in the study, for a total of 40 rounds. An honest participant on average would guess between 6 and 7 rolls correctly. Comparison of a participant’s number of successful guesses reported to the expected distribution of successful guesses under the assumption of honest reporting allows for estimation of the participant’s cheat rate, as discussed in greater detail below.

**Pro-Social Preferences Game:** To measure altruism, we employed a modified dictator game, an approach frequently used by economists (see, e.g., Banuri & Keefer 2016; Hanna & Wang 2017; Barfort et al. 2019). We allotted participants a sum of money and then allowed participants to keep this money or donate to charity. Actual donations were made in accordance with the participants’ preferences. The game therefore places participants in a scenario that encompasses a direct tradeoff between personal financial gain and efforts to promote broader societal goals.

**External Validity:** These experimental games facilitate measurement based on observed behavior, but an important question concerns the extent to which behavior in the experimental setting correlates with real-world behavior. Fortunately, abundant evidence indicates that
concerns about the artificiality of these experimental measures should not be overstated. Barr & Serra (2010) demonstrate a remarkable connection between real-world conditions and outcomes in their bribery games, which were conducted at Oxford University: Oxford students from foreign countries that rank poorly on global corruption indicators were significantly more likely to engage in corruption in the laboratory than students from low-corruption countries. Dice task games have been similarly validated, with several studies showing that dishonesty in these games is correlated with various forms of cheating, fraud, and rule breaking in schools, the workplace, and prisons (Cohn et al. 2015; Hanna & Wang 2017; Cohn & Marèchal 2018). Finally, with respect to our measure of altruism, a number of studies show that donations in laboratory games are strong predictors of real-world pro-social behavior such as charitable giving (see, e.g., Benz and Meier, 2008; Franzen & Pointner 2013). In short, when real-world behavior is difficult to observe, the existing evidence suggests that indicators derived from experimental games offer a valuable alternative. We return to these questions and discuss issues related to other forms of external validity in the article’s concluding section.

Measurement – Public Service Motivation and Control Variables

To measure Public Service Motivation (PSM), we used a 16-item scale developed by Kim et al. (2012). This version of the scale builds on Perry’s (1996) original scale but was designed by an international team of scholars to account for cross-cultural distinctions. The scale consists of an unweighted average of a series of attitudinal questions, shown in English and in Russian translation in Section A of the Online Appendix, measuring four dimensions of PSM: (1) Attraction to Public Service (APS), (2) Commitment to Public Values (CPV), (3) Compassion (COM), and (4) Self-Sacrifice (SS). The Online Appendix also presents the results of confirmatory factor analysis (CFA) showing that the four-factor model is a reasonable fit to the
data for all three research sites.\textsuperscript{24} Moreover, at all sites reliability coefficients (Cronbach’s $\alpha$) for the full PSM scale were above 0.85 and at or above the 0.70 threshold for acceptable internal consistency for each of the four dimensions with the exception of CPV in the Moscow study. We additionally collected a wide variety of data on demographic and attitudinal indicators that could potentially be correlated with both PSM and propensity to engage in corruption, dishonesty, or altruism. Perry (1997), Maesschalck et al. (2008), and Perry et al. (2008) suggest that various processes of socialization affect an individual’s level of PSM, including parental socialization, religious socialization, and professional identification. Our analyses therefore include control variables for religiosity, parental occupation, family income, and the size of the city or town in which respondents resided during childhood. Professional identification may be less relevant for our student-based sample, but we measure respondent’s class year and academic specialization in order to account for the different socialization processes across departments (e.g., economics versus public administration). Finally we collect data on factors frequently correlated with behavioral patterns in experimental games, including gender, ability (measured with self-reported GPA), and risk aversion. To measure risk aversion, we used a series of paired lottery choices in which participants selected between a series of fixed payoffs and lotteries with a 50 percent chance of receiving no payment and a 50 percent chance of receiving a higher payment (see Holt & Laury 2002). The indicator of interest is the number of certain payoffs an individual chooses before switching to a riskier – though potentially higher paying – lottery.

\textsuperscript{24} For all samples, the fit is improved if the COM dimension is excluded, but for the sake of comprehensively evaluating the relationship between PSM and ethical and unethical behavior we retain all dimensions in our analyses. Our findings are qualitatively and quantitatively similar if we exclude the COM dimension.
Results

Descriptive Statistics

Before turning to our primary analysis, we present a brief overview of the outcomes from the experimental games and summary statistics for the PSM scale, beginning with the bribery game. As can be seen in Table 1, 61 percent of participants in the Moscow study engaged in a bribe transaction, compared to 47 percent and 29 percent in the Russian regional study and Ukraine study, respectively. Two factors should be considered when interpreting the lower rate in the Ukraine study. First, this study was conducted on university territory in a computer laboratory, which may have created an environment in which students felt more compelled to avoid behavior labeled as “corrupt.” Second, the sample composition of the two Russian studies, in which participants were primarily from the social sciences, differed markedly from the Ukraine study in which 83 percent of participants were studying to be lawyers, judges, and prosecutors.25

With respect to measures of dishonesty from the dice task game, Table 1 shows that the average number of reported correct guesses was approximately 15 in the Moscow study, 19 in the Ukraine study, and 21 in the Russian regional study – far higher than the 6.7 correct guesses that would be expected on average from a fully honest individual reporting correct guesses for 40 dice rolls. Following Barfort et al. (2019) and Olsen et al. (2019), we estimate cheat rates, or the proportion of the 40 rolls on which an individual likely reported dishonestly.26 Average cheat rates range from 0.26 in Moscow (meaning that on average participants reported dishonestly on

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25 The Ukraine study also included an information experiment in which subjects were randomly assigned to view an anti-corruption poster prior to the experimental games. The bribe rate in the control group, which was not exposed to the poster, was higher than the sample average – 32 percent – but still noticeably lower than rate at the Russian sites.

26 Each participant’s reported number of correct guesses \( Y_i \) is a function of the number of dice rolls \( K = 40 \), the probability of a correct guess \( p = 1/6 \), and individual \( i \)’s \( \text{CheatRate} \), such that \( Y_i = K(p^+ (1-p)\text{CheatRate}) \). Rearranging produces the estimated cheat rate:

\[
\text{CheatRate} = \frac{6}{5} \left( \frac{Y_i}{40} - \frac{1}{6} \right)
\]

Note that a downside of this estimator is that for sufficiently small \( Y_i \) (i.e., for individuals who are both honest and unlucky), the estimated cheat rate can be negative.
just over every fourth dice roll) to 0.38 in the Ukraine study and 0.42 in the Russian regional study. To provide further intuition for the dice-task game results, Figure 1 compares the distribution of observed correct guesses over 40 dice rolls to the expected distribution for a fully honest participant. As can be seen, only three percent of the sample in the Moscow study, six percent in the regional Russia sample, and two percent of the Ukraine sample purely maximized payoffs by reporting 40 correct guesses in the dice task game. In Moscow, 16 percent reported 7 or fewer correct guesses – the amount of or lower than the number of correct guesses an honest
Figure 1: Number of Correct Guesses for 40 Dice Rolls

*Expected Distribution with Full Honesty vs. Observed Distribution*

**A. Russia - Moscow Study (N = 804)**

**B. Russia - Regional Study (N = 376)**

**C. Ukraine Study (N = 695)**

Note: x-axes represent number of correct guesses; y-axes represent proportion of participants.

individual would be expected to make by chance. In the regional Russia study, the comparable figure was 12 percent; in the Ukraine study, 10 percent. Meanwhile, approximately 63 percent of
respondents in the Moscow study, 79 percent of respondents in the regional Russia study, and 77 percent of respondents in the Ukraine study reported 10 or more correct guesses, despite the fact that the probability of honestly guessing right 10 or more times is around 12 percent.

Finally, in the modified dictator game participants in the Moscow study on average donated approximately 50 percent of their initial endowment to charity, compared to 53 percent in the regional Russia study and 60 percent in the Ukraine study. It again should be noted that the Ukrainian students participated in a university laboratory, whereas the participants at both Russian sites participated online at a time and location of their choosing, meaning that results across the Russian and Ukrainian studies are not strictly comparable.

In all studies, altruism is negatively correlated with dishonesty and propensity to engage in corruption, while dishonesty and propensity to engage in corruption are positively correlated. In the Moscow study, those who gave or accepted bribes in the bribery game donated around 13 percentage points less of the initial endowment than those who did not. In the regional study and Ukraine study, the corresponding figures were 12 and 19 percentage points. Meanwhile, in all three studies those who engaged in a bribe transaction in the bribery game had a cheat rate between 10 and 11 percentage points higher in the dice game. In all cases these differences are statistically significant at $p < 0.001$. That said, while the measures of propensity for corruption and dishonesty clearly are related, they capture distinct information about unethical behavior, as discussed in more detail in the analyses below.

Finally, Table 1 provides descriptive statistics for PSM scores. The 5-point scales on which these were initially measured have been rescaled to range from 0 to 1.27 Overall PSM scores were similar across the Moscow and regional study – 0.63 and 0.65, respectively – and

27 We use this rescaling to make our results regarding PSM and cheating in the dice-task game comparable to Olsen et al. (2019), although we emphasize that without assessment of measurement invariance such cross-national comparisons warrant caution. On the original 5-point PSM scale, sample averages were 3.62 for the Moscow study, 3.67 for the regional Russia study, and 3.86 for the Ukraine study.
moderately higher in the Ukraine study at 0.70. At all three research sites, average scores for the Commitment to Public Values (CPV) dimension of PSM were highest, followed by Compassion (COM), Attraction to Public Service (APS), and then Self-Sacrifice (SS).

**PSM as a Predictor of Corruption, Dishonesty, and Altruism**

This section now turns to our primary analyses. Table 2 presents results evaluating willingness to engage in a behavior framed explicitly as a corrupt activity, as measured by whether or not participants offered (in the role of citizen) or accepted (in the role of bureaucrat) a bribe in the bribery game. Because the outcome variable is dichotomous, we employ linear probability models. Results are robust to the use of logit regressions and average marginal effects from logit models are similar in magnitude to the coefficients in Table 2.

The PSM index has been rescaled to range from 0 to 1, such that regression coefficients can be interpreted as the average percentage point difference in the likeliness of individuals at the high end of the PSM spectrum to engage in a bribe transaction compared to individuals at the low end of the spectrum. Odd numbered columns show bivariate regressions; even numbered columns show specifications including control variables for confounders that could potentially be correlated with both PSM and propensity to engage in corruption, including gender, risk aversion, ability (measured as self-reported GPA), class year, field of study, religiosity, family income, parental occupations, and size of the city in which the participant resided during childhood. The analyses show that individuals with higher levels of PSM exhibit substantially lower levels of propensity to engage in a corrupt act. In the Moscow study, participants exhibiting the highest levels of PSM are on average nearly 90 percentage points less likely than

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28 As discussed in Section B of the Online Appendix, multi-group confirmatory factor analysis does not produce evidence of metric invariance across the research sites, indicating that comparisons of mean values – as well as the magnitude of the relationships between PSM and ethical or unethical behavior analyzed below – across research sites should be conducted with care.
participants exhibiting the lowest levels of PSM to engage in a bribe transaction; in the Russian regional and Ukraine studies, the corresponding figure is around 60 percentage points. Results are robust to the inclusion of a full set of control variables, and for all specifications at all three research sites the findings are statistically significant at $p < 0.01$ or $p < 0.001$. Additionally, as shown in Section E of the Online Appendix, there is a large and nearly always statistically

Table 2: PSM as a Predictor of Propensity to Engage in Corruption

<table>
<thead>
<tr>
<th></th>
<th>Russia University in Moscow (1)</th>
<th>Russia Regional University (2)</th>
<th>Russia Legal Academy (3)</th>
<th>Ukraine Legal Academy (4)</th>
<th>Ukraine Legal Academy (5)</th>
<th>Ukraine Legal Academy (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSM</td>
<td>-0.875*** (0.099)</td>
<td>-0.742*** (0.105)</td>
<td>-0.589*** (0.154)</td>
<td>-0.521** (0.170)</td>
<td>-0.628*** (0.109)</td>
<td>-0.582*** (0.122)</td>
</tr>
<tr>
<td>Male</td>
<td>0.101** (0.035)</td>
<td>-0.032 (0.059)</td>
<td>0.100** (0.035)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk Aversion</td>
<td>-0.077 (0.099)</td>
<td>-0.142 (0.125)</td>
<td>-0.094 (0.067)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA</td>
<td>0.034 (0.091)</td>
<td>-0.101 (0.145)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Income</td>
<td>0.059 (0.078)</td>
<td>0.009 (0.134)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home City Size</td>
<td>0.019 (0.047)</td>
<td>-0.013 (0.081)</td>
<td>0.111† (0.059)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religious</td>
<td>-0.018 (0.034)</td>
<td>-0.062 (0.055)</td>
<td>0.042 (0.042)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field of Study:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Econ./Business</td>
<td>0.117** (0.037)</td>
<td>0.084 (0.062)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Law</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.158*** (0.062)</td>
<td>1.013*** (0.125)</td>
<td>0.854*** (0.104)</td>
<td>0.953*** (0.199)</td>
<td>0.721*** (0.091)</td>
<td>0.724*** (0.146)</td>
</tr>
<tr>
<td>Class Year Dummies</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Observations</td>
<td>802</td>
<td>789</td>
<td>374</td>
<td>366</td>
<td>691</td>
<td>665</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.070</td>
<td>0.120</td>
<td>0.037</td>
<td>0.070</td>
<td>0.054</td>
<td>0.092</td>
</tr>
</tbody>
</table>

Note: *** $p<0.001$, ** $p<0.01$, * $p<0.05$, † $p<0.10$. Linear Probability Models with robust standard errors in parentheses. For the Ukraine study (Columns 5 and 6), standard errors are clustered at the session level. PSM refers to the Public Service Motivation index. The Econ./Business variable compares students at the Russian universities studying economics or business to students studying other social sciences (see discussion in the text); the Law variable compares students at the Ukrainian legal academy studying law to students studying other social sciences. The parental occupation variables are not mutually exclusive and represent a student with at least one parent in the given occupation relative to students with neither parent in this occupation. See the note to Table 1 for additional information about other control variables.
significant negative relationship between each of the four dimensions of PSM and propensity for corruption at each of the research sites.

Our robust results concerning PSM and corruption differ from our findings concerning dishonesty. Table 3 presents results from OLS regressions analyzing the association between PSM and cheat rates in the dice task game. Regression coefficients can be interpreted as the percentage point difference in cheat rates between a high and low-PSM individual. In contrast to Olsen et al. (2019) who, using the same dice task we employed, identify a robust negative correlation between PSM and cheating among Danish students, we find more mixed results. For the Moscow study, moving from the lowest to highest PSM levels is associated with approximately a 15 percentage points decline in the cheat rate, but while the bivariate results are statistically significant at $p < 0.05$, they are not robust to the inclusion of control variables. Moreover, the magnitude of this correlation is strikingly lower than the approximately 70 percentage point decline found in Olsen et al.’s (2019) Danish sample. And while Olsen et al. (2019) found a robust and negative correlation between each dimension of PSM and cheating, ranging in magnitude from 19 to 44 percentage points, the dimensions in our study are associated with a decline in the cheat rate of around 7 to 11 percentage points, as shown in Section E of the Online Appendix. Beyond the Moscow study, the results diverge further. For both the overall PSM scale and its dimensions, in nearly all specifications in the regional and Ukraine studies there are no statistically significant relationships. In the article’s concluding Discussion section, we consider possible interpretations and implications of the divergent findings between our study and the Olsen et al. (2019) study in greater detail.

29 As noted in the Theory section, Christensen & Wright (2018) also find a weak relationship between priming PSM levels and subjects’ willingness to cheat in dice task games, suggesting that Olsen et al.’s (2019) findings might be the exception, not the norm. It is also possible that differential findings could be due to moderators. Olsen et al. (2019), for example, limit their analysis to students planning to pursue public sector careers. That said, we do not find that accounting for career intentions affects the relationship between PSM and cheat rates in our studies.
Finally, Table 4 presents OLS regressions analyzing the association between PSM and altruism, as measured by the proportion of the initial endowment donated to charity in the dictator game. The results show a positive and robust relationship between PSM and altruism. In bivariate regressions, an individual with high PSM levels on average donates 63 percentage points more of the initial endowment than the low-PSM individual in the Moscow study, 41
percentage points more in the regional Russian study, and a 50 percentage points more in the Ukraine study. In all cases the results are significant at \( p < 0.01 \) or \( p < 0.001 \), even in specifications including a full set of control variables. Moreover, all four dimensions of PSM are positively and mostly statistically significantly associated with altruistic donations, as shown in Section E of the Online Appendix.\(^{30}\)

Beyond our primary analyses about PSM, surprisingly few covariates in the set of control variables are associated with propensity to engage in corruption, dishonesty, or altruism at a statistically significant level. Males at the Moscow and Ukrainian research sites are more likely to engage in a bribe transaction, and males at all sites donate less money in the dictator game. And while we find that economics and business students at the Moscow site are more likely to engage in corruption in the bribery game, in line with earlier studies showing that economics students are more likely to engage in self-interested behavior (e.g., Frank & Schulze 2000), this result does not hold up at the other two sites.\(^{31}\) Somewhat surprisingly, risk aversion is largely uncorrelated with behavior in any of the games, at least in specifications that include full sets of control variables. There is some evidence at the Russian sites that students with parents in the public sector are more likely to cheat and students with parents in the private sector are more likely to donate. But overall, systematic relationships between parental occupation and ethical or unethical conduct are not readily apparent.

In summary, we find that PSM is robustly negatively associated with propensity to engage in corruption and positively associated with altruism. Our findings regarding PSM and dishonesty are more mixed. Although PSM is negatively correlated with dishonesty, the magnitude of these

\(^{30}\) These results contrast with Esteve et al.’s (2016) finding that despite an overall positive correlation between PSM and contributions in a public goods game, the COM dimension has a negative correlation with contributions. Esteve et al. (2016) do not present separate analyses for the other dimensions of PSM beyond the COM dimension.

\(^{31}\) The regressions in Tables 2-4 compare economics and business students to all other fields of study at the Russian research sites, because earlier studies have identified this distinction as particularly salient. However, our findings are robust regardless of how we control for field of study.
Table 4: PSM as a Predictor of Altruism

Dependent Variable: Proportion of Endowment Donated to Charity in Dictator Game

<table>
<thead>
<tr>
<th></th>
<th>Russia University in Moscow (1)</th>
<th>Russia Regional University (2)</th>
<th>Ukraine Legal Academy (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSM</td>
<td>0.628***</td>
<td>0.549***</td>
<td>0.407***</td>
</tr>
<tr>
<td></td>
<td>(0.075)</td>
<td>(0.079)</td>
<td>(0.108)</td>
</tr>
<tr>
<td>Male</td>
<td>-0.129***</td>
<td>-0.116**</td>
<td>-0.079**</td>
</tr>
<tr>
<td></td>
<td>(0.023)</td>
<td>(0.038)</td>
<td>(0.025)</td>
</tr>
<tr>
<td>Risk Aversion</td>
<td>-0.100</td>
<td>0.108</td>
<td>-0.122†</td>
</tr>
<tr>
<td></td>
<td>(0.065)</td>
<td>(0.079)</td>
<td>(0.066)</td>
</tr>
<tr>
<td>GPA</td>
<td>-0.018</td>
<td>0.059</td>
<td>0.040</td>
</tr>
<tr>
<td></td>
<td>(0.061)</td>
<td>(0.098)</td>
<td>(0.073)</td>
</tr>
<tr>
<td>Family Income</td>
<td>0.015</td>
<td>0.048</td>
<td>0.105</td>
</tr>
<tr>
<td></td>
<td>(0.051)</td>
<td>(0.095)</td>
<td>(0.080)</td>
</tr>
<tr>
<td>Home City Size</td>
<td>0.040</td>
<td>-0.045</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td>(0.030)</td>
<td>(0.052)</td>
<td>(0.043)</td>
</tr>
<tr>
<td>Religious</td>
<td>0.037†</td>
<td>0.003</td>
<td>0.040</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.034)</td>
<td>(0.028)</td>
</tr>
<tr>
<td>Parent Employed in:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Sector</td>
<td>0.011</td>
<td>0.004</td>
<td>-0.019</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.034)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>Private Sector</td>
<td>0.068*</td>
<td>0.075†</td>
<td>0.027</td>
</tr>
<tr>
<td></td>
<td>(0.027)</td>
<td>(0.043)</td>
<td>(0.027)</td>
</tr>
<tr>
<td>Non-Profit Sector</td>
<td>0.019</td>
<td>0.008</td>
<td>0.054</td>
</tr>
<tr>
<td></td>
<td>(0.038)</td>
<td>(0.067)</td>
<td>(0.047)</td>
</tr>
<tr>
<td>Military</td>
<td>0.053</td>
<td>0.156*</td>
<td>-0.017</td>
</tr>
<tr>
<td></td>
<td>(0.037)</td>
<td>(0.077)</td>
<td>(0.047)</td>
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<td>Legal Profession</td>
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<td>-0.005</td>
<td>0.043</td>
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<tr>
<td></td>
<td>(0.045)</td>
<td>(0.069)</td>
<td>(0.037)</td>
</tr>
<tr>
<td>Field of Study:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Econ./Business</td>
<td>-0.042</td>
<td>0.006</td>
<td>-0.019</td>
</tr>
<tr>
<td></td>
<td>(0.026)</td>
<td>(0.040)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>Law</td>
<td></td>
<td></td>
<td>0.071</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.053)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.104*</td>
<td>0.114</td>
<td>0.262***</td>
</tr>
<tr>
<td></td>
<td>(0.049)</td>
<td>(0.087)</td>
<td>(0.071)</td>
</tr>
<tr>
<td>Class Year Dummies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>803</td>
<td>790</td>
<td>375</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.083</td>
<td>0.144</td>
<td>0.043</td>
</tr>
</tbody>
</table>

Note: *** p<0.001, ** p<0.01, * p<0.05, † p<0.10. OLS regressions with robust standard errors in parentheses. For the Ukraine study (Columns 5 and 6), standard errors are clustered at the session level. PSM refers to the Public Service Motivation index. The Econ./Business variable compares students at the Russian universities studying economics or business to students studying other social sciences (see discussion in the text); the Law variable compares students at the Ukrainian legal academy studying law to students studying other social sciences. The parental occupation variables are not mutually exclusive and represent a student with at least one parent in the given occupation relative to students with neither parent in this occupation. See the note to Table 1 for additional information about other control variables.

correlations is relatively small, and results are no longer statistically significant in specifications including a full set of control variables.
Discussion

Given that civil servants and other public sector employees throughout the world have been shown to exhibit high PSM levels, understanding how PSM is tied to ethical or unethical behavior has important implications. With rare exceptions, earlier research on this topic has been limited by reliance on hypothetical vignettes about illicit behaviors and self-reported measures subject to social desirability bias. This study has sought to advance the literature by employing incentivized experimental games to study the relationships between PSM and observable behavior indicative of propensity to engage in corruption, dishonesty, and altruism. Most notably, our study represents the first research on PSM to utilize a behavioral measure of corruption. Moreover, our simultaneous use of three experimental games facilitates nuanced interpretation of the findings in ways that studies employing a single game cannot. In particular, our finding that PSM is robustly negatively correlated to propensity to engage in corruption but only weakly associated with dishonesty indicates that unethical behavior that specifically undermines the public interest may be especially at odds with PSM. Our findings also suggest that caution is warranted when utilizing behavioral measures of dishonesty as a proxy for willingness to engage in corruption.

Our extension of the study of PSM to Russia and Ukraine additionally facilitates analysis of PSM in a novel context that presents a tough test of generalizability of the hypotheses that high-PSM individuals are less likely to act unethically and more likely to act ethically. Most notably distinctive understandings in the post-Soviet region of the “public interest” or the “public good” and much higher levels of corruption set countries such as Russia and Ukraine apart from the Western contexts where much of the research on PSM has been conducted.

While our use of experimental games marks a contribution to the existing literature, an important question concerns the extent to which our findings generalize beyond an experimental
setting. As discussed in the Research Design section, extensive evidence indicates that subjects’ choices in experimental games are highly correlated with real-world behavior, making indicators derived from experimental games a valuable tool for the study of difficult-to-observe phenomena such as corruption and dishonesty. But other forms of external validity must also be considered and may present potential limitations to our study. While we were able to randomly sample students at the Ukrainian site, our research at the two Russian sites relied on convenience samples. Strictly speaking, we cannot rule out the possibility that students in our study differ systematically from their peers who did not participate. Note, however, that our results do not depend on levels of bribing, cheating, or altruism, but on the correlation between these behavioral traits and PSM. It is therefore unlikely that our findings simply are an artifact of sampling. Like nearly all studies utilizing experimental games, we also cannot claim that our student samples are representative of the broader population at large. That said, the existing evidence indicates that findings based on experiments with student samples often do in fact generalize to other populations (Druckman & Kam 2011; Exadaktylos et al. 2013).

Future research nevertheless undoubtedly would benefit from finding ways to analyze the relationships between PSM and unethical behaviors in a non-laboratory context and in non-student samples. Hanna & Wang (2017), for example, validate the dice task game by comparing public employees’ cheating in the laboratory with administrative data on the same employees’ fraudulent absenteeism, the claiming of a paycheck for time not worked. Building on this approach, future studies could collect measures of PSM for samples of subjects for whom such administrative data exists, facilitating analysis of PSM’s associations with real-world behavior.

Our study also makes no claims regarding the causal impact of PSM, only that individuals with high PSM levels are also more likely to engage in pro-social behavior and avoid unethical

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32 See Section D of the Online Appendix for further discussion of the representativeness of our samples.
conduct. Moreover, while the robustness of our findings to the inclusion of an extensive set of control variables should mitigate concerns about some forms of endogeneity, our research design cannot account for potentially confounding factors as rigorously as designs that experimentally manipulate explanatory variables. Future experimental work that primes individuals in ways known to increase PSM levels, in line with recent work by Meyer-Sahling et al. (2019) and Christensen & Wright (2018), may be able to offer insights into whether managers can purposefully activate PSM in socially beneficially ways.

Finally, additional research on PSM and dishonesty is required. On the one hand, it may be the case that the different findings in our study and the Olsen et al. (2019) study reflect starkly different contexts. On the other hand, as discussed throughout, there are sound theoretical reasons to expect the relationship between PSM and dishonesty to be weaker than the relationship between PSM and corruption. Moreover, not only are our findings in line with those of Christensen & Wright (2018) but also our pilot study conducted in the United States (see Section F of the Online Appendix) produced similar findings to our main study conducted in Russia and Ukraine, suggesting that Olsen et al.’s (2019) findings may be the outlier.

For now, what is clear is that individuals with high PSM are less willing to engage in unethical behavior, particularly unethical behavior such as corruption that undermines the public interest, and more likely to engage in ethical behavior such altruism. These associations hold true not only in Western contexts but also in the starkly different context of the post-Soviet region.
References


