

## **The Benefits of PSM: An Oasis or a Mirage?**

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**(Forthcoming in *Journal of Public Administration Theory and Research*)**

### **Abstract**

Scholarly interest in Public Service Motivation has yielded a vast amount of research, exploring its potential for benefitting public-sector organizations through increased employee job satisfaction, enhanced individual performance, employee retention, and enhanced organizational commitment and citizenship behavior. However, a closer inspection of the literature reveals mixed empirical evidence for each impact of PSM. The present study carries out a meta-analysis of five key impacts of PSM to explain the divergence of results in the existing literature. We find evidence of the existence of a true effect for PSM over all the dependent variables, except for turnover intentions. In addition, we find a possible explanation for the mixed empirical evidence found in previous studies. We demonstrate that individual and organizational benefits of PSM are not accrued equally in all public sector workplaces and that the contextual variables legal origin and endemic countrywide corruption influence the extent to which PSM can produce positive outcomes in the workplace.

## **Introduction**

In their original conceptualization of Public Service Motivation (PSM), Perry and Wise (1990) suggested that this distinct form of motivation produced a number of behavioral benefits. The list of positive individual outcomes was later augmented to include organizational benefits. Consequently, researchers have delved deep to investigate the organizational and individual impacts of PSM empirically in organizational contexts, assessing job satisfaction, individual and organizational performance, organizational commitment and citizenship behavior, and ethical behavior (Perry 2014). However, despite the growth of PSM research, scholars have noted enduring discrepancies and “inconsistent findings in the most frequently analyzed relationships” (Ritz, Brewer, and Neumann 2016, 422); they have strongly recommended using quantitative meta-analyses to reconcile inconsistencies. The present study has therefore used the quantitative meta-analysis method to reconcile these varying results. We are aware of previous meta-analyses of the impact of public service motivation on various outcomes (Warren and Chen 2013; Homberg, McCarthy, and Tabvuma 2015; Harari et al. 2017) and have drawn on these studies to further develop the theory of PSM.

Research on PSM has grown dramatically, becoming increasingly international, multi-sectoral, and multidisciplinary (Ritz, Brewer, and Neumann 2016) and providing rich insights into PSM and its relationship with a range of constructs. As research on PSM has matured, empirical testing has become increasingly heterogeneous, featuring different methods of measurement, countries of data origin, and statistical methods. In recent years, scholars have emphasized the importance of delving into contextual factors to examine the impacts of PSM (van Loon 2017), as few studies to date have accounted for these (Vandenabeele and Van de Walle 2008). The present study investigates these contextual factors and the measurement-related choices made by researchers in empirical studies to determine whether some part of the variance in results can be attributed to them. We believe that considering a wider range of

contextual factors may yield interesting insights about the factors that influence the impact of PSM on various outcomes.

Our meta-analysis includes the five most heavily researched outcomes of PSM: job satisfaction, individual performance, turnover intent, organizational commitment, and organizational citizenship behavior (OCB). When considering the importance of each outcome in an organizational setting, it is useful to ascertain the contingencies that determine the strength of each relationship. As we concur with Harari et al. (2017, 81) that “PSM’s impact on organizational variables is indeed nuanced”, we have set out to understand it more deeply by incorporating moderators that have not been used in prior meta-analyses.

Specifically, we consider the salience of two types of factors in existing studies and the extent to which they strengthen or weaken a given individual or organizational impact of PSM. First, we assess the impact of measurement-related choices made by the researchers; second, we look at the contextual factors that may account for some variation in study results. We note that some studies have documented cross-country differences in PSM levels, attributing these to varying institutional contexts in the countries in question (Vandenabeele and Van de Walle 2008). We therefore extend the public-administration literature by looking at two separate country-level attributes: national legal origins and endemic countrywide corruption. We apply these two well-established constructs, drawn from the economics and finance literature, to assess their impact on the strength of PSM outcomes. Legal-origins theory has been used extensively in the field of finance and economics to explain differences in government quality and the role played by government in shaping the institutional environment across various countries (Botero et al. 2004; La Porta et al. 1999). Bearing in mind the impact of institutions on individual attitudes (Houston 2011), we consider the impact of a country’s legal origins on the relationship between PSM and its outcomes. The second contextual variable in this study is endemic countrywide corruption. As corruption has a powerful impact on the attitudes and

behaviors of public-sector employees (Gould and Amaro-Reyes 1980), we explore its influence on the relationship between PSM and its outcomes.

Homberg, McCarthy, and Tabvuma (2015) did a commendable job of incorporating research publication status, PSM measurement, the origin of data, and the opportunity to serve the public in a particular job as moderators in their meta-analysis of the relationship between PSM and job satisfaction. Harari et al. (2017) similarly used the national context to moderate the relationship between PSM and various outcome variables. The present study goes further by breaking down information relating to the country of origin into distinct constructs involving legal origins and levels of corruption. This approach extends the meta-analysis of Homberg, McCarthy, and Tabvuma (2015), which conceptualizes country differences as U.S. and non-U.S. — as well as that of Harari et al. (2017), which clusters countries into Anglo, Germanic Europe, Latin Europe and Confucian Asia clusters, based on similarities between national cultures and traditions. The present study builds on the correlational evidence provided by Harari et al. (2017) by performing a regression analysis of the organizational and individual impacts of PSM, while also incorporating a wider array of moderating variables to provide more robust evidence of these relationships. While a correlational meta-analysis is an effective tool for quantitatively synthesizing research to establish a mean correlation, a meta-regression analysis goes further, by exploring the heterogeneity of results and extending existing theory.

Overall, this research contributes to the existing literature by investigating whether the variation in existing research results is artificial and a consequence of measurement choices, or an effect of the environment in which the study was conducted. By using meta-analytic tools, this study separates the impact of measurement choices from that of contextual and environmental factors. It shows that researchers' measurement-related choices, as well as the contextual factors corruption and the legal origins of countries, influence the strength of the

relationship between PSM and each outcome variable in a different way. We discuss these results and their implications in later sections.

### **Public Service Motivation and Work-Related Behaviors**

The concept of PSM presents an alternative to rational theories of motivation based on narrow self-interest (Moynihan and Pandey 2007b); it is built on the altruistic foundation of doing good for others and benefitting society (Perry and Hondeghem 2008). From among many definitions of PSM, we have used the one proposed by Rainey and Steinbauer (1999, 20), who defined PSM as “the general altruistic motivation to serve the interests of a community of people, a state, a nation or humankind.” This definition is somewhat different to the one originally proposed by Perry and Wise (1990, 368), who defined PSM as “an individual’s predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations”. Scholars now recognize that PSM is not unique to government employees, even though individuals with higher levels of PSM are more likely to seek employment in the public sector (Christensen and Wright 2011).

PSM, which recognizes and embraces multiple bases of motivation, is constructed on rational, normative, and affective foundations. An individual’s wish to participate in the policy-making process represents a rational motivation; his or her sense of duty or obligation to contribute to society represents a normative motivation, while feelings of compassion and self-sacrifice represent affective motivations. In conceptualizing PSM, Perry and Wise (1990) predicted that it could deliver several benefits to individuals and organizations, including increased individual performance and organizational commitment. In the years that followed, their work was followed by a flurry of research that explored the impact of PSM on, among other things, job satisfaction, individual performance, reduced turnover intent, organizational commitment, and OCB. Despite the considerable amount of attention and research devoted to

these constructs, Ritz, Brewer, and Neumann (2016) have noted that inconsistencies remain in the research findings. The present study discusses the basis for PSM's relationship with each outcome variable and the overall findings separately.

### **Job Satisfaction**

Job satisfaction has been defined as a “pleasurable or positive emotional state resulting from the appraisal of one’s job or job experience” (Locke 1976, 1300). Some commentators believe that it includes “the benefits that employees perceive they are receiving from their organization” (Moynihan and Pandey 2007a). Many consider PSM the desire to serve the public interest; the nature of public-sector organizations positions them extremely well to provide opportunities to work in the public interest (Homberg, McCarthy, and Tabvuma 2015). Public-sector employment can give individuals the opportunity to contribute towards society through their work, enabling them to “satisfy the individual need of wanting to help others” (Vandenabeele 2009, 15) and leading to increased levels of job satisfaction.

Job satisfaction may drive a number of positive outcomes, including organizational commitment, OCB, and even increased individual performance (Homberg, McCarthy, and Tabvuma 2015). These significant benefits of job satisfaction have raised the profile of PSM, which is also seen as directly influencing individual job satisfaction. Although many studies support the direct positive relationship between job satisfaction and PSM, others have failed to find a significant relationship between the two variables. A meta-analysis carried out by Homberg, McCarthy, and Tabvuma (2015), based on 28 studies, found support for a positive relationship between PSM and job satisfaction, and also identified some study characteristics affecting the relationship between PSM and job satisfaction. However, this review only covers the time period of 1990–2013. A number of studies that have examined the same relationship more recently have presented some contradictory findings. For example, while Kim (2012) has

reported a significant direct relationship between PSM and job satisfaction among Korean public employees, even after controlling for person-organization fit, Caillier (2015b), who used structural equation modeling to analyze this relationship, found no significant support for a direct relationship among U.S. public employees; instead, the study demonstrated an indirect path through mission valence. Both studies used samples of public personnel from various government departments and neither mentioned the presence of any controls for the type of service provided. In our view, the fact that more than 10 new studies and more than 40 new estimations have appeared since the last meta-analysis carried out by Homberg, McCarthy, and Tabvuma (2015) validates this re-examination of the relationship, which includes new evidence.

### **Individual Performance**

When Perry and Wise (1990) first introduced the construct of PSM, its significance stemmed from its ability to positively impact individual performance, among other things. As PSM is based on the desire to serve society, individuals presented with an opportunity to serve society through their work may find their work more meaningful, leading them to perform assigned tasks better. Although most researchers do not explicitly use a formal definition of individual performance, the literature has often interchangeably used the terms “job performance”, “task performance” and “individual performance”. Our usage of the term “individual performance” encompasses these different aspects of an individual’s work-related performance.

This link between PSM and performance has been explored in the literature and received much support (Ritz, Brewer, and Neumann 2016). Warren and Chen (2013), the first researchers to perform a meta-analysis of empirical evidence of this relationship, reported a significant positive effect of PSM on performance. The most recent study included in their meta-analysis was published in 2010; subsequently, a number of studies have investigated the

same relationship, warranting a re-examination of the link, incorporating new empirical evidence.

Early studies of the link between PSM and performance relied on self-reported and subjective measures of performance. Later, Anderson, Heinesen, and Pedersen (2014) presented stronger evidence of this relationship by establishing a link between teachers' PSM and student grades. However, the evidence was not unanimous, as a few studies found no significant impact of PSM on individual performance. Jin, McDonald, and Park (2018) found no support for a direct effect of PSM on individual performance, whereas Alonso and Lewis (2001) produced results that were inconclusive at best. Using two separate large-scale datasets, each with two different measures of performance, Alonso and Lewis found that only some estimations supported the relationship; they concluded that "the links between PSM and performance were clearly not robust enough" (Alonso and Lewis 2001, 376). Petrovsky and Ritz (2014) also raised doubts about the robustness of the relationship between PSM and performance, blaming common method bias for artificially inflating the true relationship.

Other scholars have raised questions about the impact of context on the relationship between PSM and performance, demonstrating that the work context significantly influences this relationship (van Loon 2017). The present study further explores the impact of other contextual factors to determine whether the variance in research results can be attributed to them.

### **Turnover Intent**

In addition to enhancing attitudes and behaviors that benefit organizations, PSM also curtails and inhibits attitudes and behaviors that can harm organizational interests. One negative outcome that is frequently encountered in PSM research is turnover intent i.e. the intent to leave the organization. Researchers have also begun to explore the "dark side" of PSM; Schott and



Ritz (2018) have developed a framework to organize research on the negative consequences of PSM on individuals and organizations. As this research stream is relatively new, we have included only turnover intent, an outcome that has a relatively high number of empirical studies needed to aggregate results. Turnover intent is particularly important for government organizations, which face human-capital constraints (Moynihan and Pandey 2008). However, the literature on links between PSM and turnover intent is highly fractionalized. While Perry and Wise (1990, 371) have suggested that individuals with high PSM are “highly motivated to remain with their organizations,” other researchers have found that employees with high PSM may be more likely to leave public-sector organizations if they feel unable to contribute to the public good within those organizations (Wright and Grant 2010). The empirical findings have also been mixed. Whereas some researchers have found a significant negative impact of PSM on turnover intent (Campbell, Im, and Jeong 2014), others remain agnostic about the existence of a direct relationship between PSM and turnover intent (Bright 2008).

### **Organizational Commitment**

Organization commitment is defined as the “psychological state that binds the individual to the organization” (Allen and Meyer 1990, 14) or “the strength of an individual’s identification with and involvement in a particular organization” (Porter et al. 1974, 604). This state, which links individuals to organizations, has important organizational consequences, as more committed individuals make greater contributions to organizations (Aven, Parker, and McEvoy 1993). Perry and Wise (1990) predicted a positive effect of PSM on employees’ organizational commitment, leading to an increase in behaviors that benefitted the organization.

When individuals who are highly motivated to serve the public find that their own values match those of an organization, they form an attachment to that organization (Kim 2012). This attachment, known as organizational commitment, causes the individual to

contribute towards the well-being of the organization (Kim 2005). While some scholars have found support for the relationship between PSM and increased organizational commitment, others believe that this relationship is either contingent on certain factors or is indirect. Taylor (2008) and Leisink and Steijn (2009) concur that PSM has a positive impact on organizational commitment, even when accounting for the fit of the individual with the organization. Despite overwhelming support for this relationship, other researchers have failed to find a significant direct relationship between PSM and organizational commitment (Potipiroon and Ford 2017). The present study considers the role of measurement and contextual variables in causing a variance in results. Building on Harari et al.'s (2017) meta-analysis of this relationship, we include 11 new studies and 22 more recent estimations; none of these have ever been included in a previous meta-analysis.

### **Organizational Citizenship Behavior (OCB)**

The theory of public-service motivation is “principally based on altruistic motives that lie beyond self-interest” (Brewer and Selden 1998). For this reason, it precludes narrow self-interested behavior. This has led to assertions about a relationship between PSM and prosocial behavior, equated in the organizational setting, with OCB. Although OCB has been defined in varying terms, the central idea remains that “OCBs are employee behaviors that, although not critical to the task or job, serve to facilitate organizational functioning” (Lee and Allen 2002, 132). Different types of citizenship behavior, such as whistle-blowing, collaboration, and working unpaid overtime are examples of citizenship behavior that have been empirically tested within the organizational context. Although the literature on the relationship between PSM and citizenship is largely united in establishing a positive relationship between PSM and citizenship behaviors, some studies have found no direct link between PSM and citizenship behavior, directed towards other colleagues or the organization (Potipiroon and Faerman 2016).

While Caillier (2015a) found strong support for a direct link between the two variables, the same researcher found no evidence of this relationship in another study (2015c), even though the operationalization of citizenship behavior (whistle-blowing) was the same in both cases. This raises the question of whether particular model characteristics may have influenced the ability to detect this relationship. As these studies were published after the data had been collected for the meta-analysis carried out by Harari et al. (2017), they were not included in that research. For this reason, it is important to investigate current studies that test this relationship.

### **Overview of Studies Analyzing PSM and Work-Related Behaviors**

Table 1 presents an overview of the evidence for each relationship found in the literature. It breaks down estimations into those that find a significant positive relationship, those that find no significant relationship, and those that find a significant negative relationship between PSM and each dependent variable. A glance at the table reveals that, while there is a high level of convergence in some relationship results (e.g., PSM and organizational commitment), there is more divergence in others, such as performance and job satisfaction. This is in line with recent criticisms about inconsistencies in the empirical findings of the PSM literature (Ritz, Brewer, and Newman, 2016).

- Table 1-

Considering the existing empirical evidence, the present meta-analysis departs from the general straightforward prediction that PSM has a positive influence on individual behavior in the workplace. More specifically, and considering the five dependent variables included in our study, we define the first hypothesis of our meta-analysis as follows:

*Hypothesis 1: PSM has a positive impact on desired individual behaviors related to the workplace, such that:*

*H1. (a): PSM is positively related to Job Satisfaction.*

*H1. (b): PSM is positively related to Individual Performance.*

*H1. (c): PSM is negatively related to Turnover intentions.*

*H1. (d): PSM is positively related to Organizational Commitment.*

*H1. (e): PSM is positively related to Organizational Citizenship Behavior (OCB).*

Considering the differences across studies included in Table 1, it becomes clear that the relation between PSM and work-related behaviors may not be straightforward. One possible explanation to understand why these studies report different findings is that their evidence has come from across continents and from different levels of government. Hence, we believe that some inconsistencies may be reconciled by taking these differences into account. In this line, previous studies have found evidence of the effect of some contingencies on the effects of PSM, such as the societal impact of the job (van Loon et al. 2018), although many others remain unexplored. To advance the literature on PSM, it is not simply useful—but critical—to reconcile current results, using the information provided in these studies to understand how context influences the effects of PSM. We propose that the “international diffusion of research on PSM” (Perry and Vandenabeele 2015, 692) necessitates the systematic inclusion of contextual variables into the theory of PSM. We take inspiration from O’Toole and Meier (2015) who recognize the importance of context in empirical studies and themselves present a theory of context for the relationship between public management and performance to help generalize the findings of empirical studies across different settings. The present study therefore attempts to explain some of the divergence in results by using the literature on legal traditions and corruption. The level of government could not be used as an explanatory variable, as insufficient data were available. The next section discusses how each of these contextual variables can moderate the effect of PSM towards work related behaviors.

## **Explaining contextual differences between PSM and Organizational Outcomes: Legal Origins and Corruption**

Legal traditions around the world are widely considered to have emerged from two distinct legal families: common law and civil law. Common law has its roots in English law, while civil law derives from Roman law and was further developed in France (Glaeser and Shleifer 2002). Civil law includes several sub-traditions of German, Socialist, and Scandinavian legal origin (La Porta, Lopez-de-Silanes, and Shleifer 2008). Over time, these legal traditions have spread across the globe as a result of conquest, imperialism, and sometimes imitation. Some of the differences between the legal families are quite stark. La Porta et al. (1999, 231–32) have juxtaposed the two, contrasting the basis of the civil legal tradition, the “intent to build institutions to further the power of the State” with the common legal tradition, which is based on “the intent to limit rather than strengthen the State.” Countries with a civil-law tradition have more extensive regulations and less secure property rights; according to some researchers, they may also have less efficient governments (La Porta, Lopez-de-Silanes, and Shleifer 2002). Glaeser and Shleifer (2002) have argued that these different legal designs reflect the degree of bullying to which enforcers of the law were subject. In the case of France, the authors recall that in the twelfth and thirteenth centuries nobles had significant power and feared each other more than they feared the king. For this reason, they chose a system designed to centralize control on the crown. England, which had a stronger monarchy, opted for a more decentralized system that relied on independent decision makers (equivalent to public servants).

One relevant development in the theory of legal origins was presented by La Porta et al. (1997) primarily to explain differences in access to financial capital; they showed that legal traditions influenced the flow of financial capital in the economy, due to the differential rights, obligations, and protections accorded to different groups of stakeholders across different legal systems. Subsequently, the theory of legal origins has helped to explain a number of cross-

country differences in government quality and the structure of corporate-ownership patterns, among other issues (La Porta et al. 1999).

The theory of legal origins has also influenced the institutional evolution of countries (Botero et al. 2004). In the field of public administration and management, a few multi-country studies have examined differences in levels of public-service motivation across countries. Vandenberghe and Van de Walle (2008), who observed a difference in PSM levels across 38 countries, suspected that institutional factors were causing the difference but did not specify the factors. Similarly, Houston (2011, 769), who looked at the impact of welfare regimes on PSM and work motives, found that national context influences PSM and specifically that the “institutions used to deliver public services affect social attitudes.” Given the role of institutions in shaping the behavior of individuals (Dal Bó, Foster, and Putterman 2010) and the impact of legal rules on economic and social outcomes (La Porta, Lopez-de-Silanes, and Shleifer 2008), the present study has used the variable of legal origins as a proxy for capturing institutional characteristics across countries. In this way, we test the moderating role of legal origins on the relationship between PSM and various individual and organizational outcomes.

The present study argues that legal traditions may explain how employees configure their role as public servants within their societies. Public employees operating under common law may perceive public services as means to an end; they may focus less on rules and processes than on outcomes. By contrast, public employees in countries with other traditions, such as a civil-law tradition, may tend to focus on the rules and processes that their institutions have created. We would expect individuals working within common-law traditions to feel more connected to their organizations and better able to make a difference to society through their work. We would therefore expect to see a positive moderation of common law on the effect of PSM on positive work behaviors. Hence, we hypothesize the following:

*Hypothesis 2: The relationship between PSM and positive work behaviors is moderated by legal origin. In such a way that countries from a common law tradition will see a stronger relation between PSM and positive work behaviors.*

Legal origin is not the only contextual factor that may influence the relationship between PSM and positive organizational outcomes. The present study also considers the impact of countrywide levels of corruption. Corruption is commonly defined in the literature as “the misuse of public office for private gain” (Treisman 2000, 399). Government corruption has wide-ranging impacts, including distorted spending allocations among projects (Mauro 1998), reduced financial investment in affected economies (Gould and Amaro-Reyes 1980), and lower economic growth (Mauro 1995). The detrimental effects of corrupt practices outweigh the benefits mentioned earlier, which can include speedier services and the ability to motivate government employees using bribes. In addition to its more obvious economic effects, corruption also undermines government institutions. Corruption within organizations generates an environment of inefficiency and “contributes to frustration on the part of otherwise professionally competent and honest civil service” (Gould and Amaro-Reyes 1980, 33). Gould and Amaro-Reyes (1980) argue that corruption generates distrust at all levels of the bureaucracy, as well as reducing the administrative efficiency of organizations. This makes corruption, or rather the perception of endemic government corruption among civil servants, a variable of interest to those researching individual and organizational outcomes in public organizations (Lederman, Loayza, and Soares 2005).

Few studies have investigated corruption in the field of public administration, in contrast to other disciplines, including economics and political science (Bozeman, Molina, and Kaufmann 2018). Recent public administration studies have shown more interest in corruption (Zhang et al. 2019) and closely associated concepts, such as (un)ethical and (dis)honest

behavior and the reporting of ethical issues (Olsen et al. 2018). However, the literature considers corruption and dishonesty primarily at the individual level. The present meta-analysis treats corruption as an environmental variable that may influence the way in which PSM affects individual behaviors and attitudes. Prior studies have shown that PSM has a stronger impact on economic donations in environments in which individuals act pro-socially, sacrificing personal gains to benefit the whole community (Esteve et al. 2016). Such findings suggest that PSM's influence on individual behaviors may be weakened in environments perceived to have a climate of corruption. We suspect that higher PSM individuals become disgruntled in more corrupt environments, acquiring and displaying fewer positive attitudes and behaviors. Arguably, then, the effect of PSM on positive work behaviors may be negatively moderated by corruption. Therefore, we hypothesize the following:

*Hypothesis 3: The relationship between PSM and positive work behaviors is negatively moderated by corruption.*

## **Methodology**

This meta-analysis investigates the impact on PSM on various individual and organizational outcomes within organizations. A meta-analysis is an “analysis of empirical analyses that attempts to integrate and explain the literature about some specific important parameter” (Stanley and Jarrell 1989, 163). It is used in cases where existing studies have obtained divergent results. A meta-analysis integrates and reconciles these results, in part by identifying variables that moderate the relationship (Geyskens et al. 2009). A meta-regression analysis provides a systematic and objective way of making judgments. It attaches weight to empirical results of different magnitudes, which may have different sample sizes, different countries of origin, and different levels of significance (Roberts 2005).



As this process generally uses both existing quantitative studies and a regression analysis, it is sometimes referred to as a “regression analysis of regression analyses” (Stanley and Jarrell 1989). Another advantage of meta-regression analyses is their ability to incorporate moderating variables that did not exist in the original studies. This technique allows researchers to collect data related to particular contextual and specification characteristics in each study and to analyze the role they play in introducing variance to findings.

### *Sampling criteria*

Although PSM is primarily grounded in public-sector studies, scholars outside the field of public administration and management, including those in economics, education, management, political science, public policy, and sociology have incorporated PSM into their research (Ritz, Brewer, and Neumann 2016). Given the wide variety of journals that have published articles on PSM, we decided to use a different approach in compiling our database of PSM articles. The present study draws on the most accurate record of PSM-related studies, namely the online database maintained by one of the originators of PSM theory, Professor James Perry; this database includes studies in the fields of public administration and management, as well as other disciplines. Using the database maintained by Perry (accessible at <https://psm.indiana.edu/>), co-originator of the term “PSM”, has given us a key advantage — it includes both published and unpublished articles and theses, some of which would have been extremely difficult to identify through other databases and thesis repositories.

This online database was accessed in November 2017; initially, a single reviewer read the abstracts of all research items listed. During this first stage, we made a note of all published and unpublished research on the impact of PSM on any individual or organizational factor. To ensure that our dataset was inclusive, we set no minimum criteria for selecting journals; all scholarly journals were considered for inclusion. To ensure that all relevant studies were

included in this analysis, we carried out a supplementary search of online repositories of Ph.D. and Master's theses, including E-Theses Online (ETHOS), DART Europe, Open Access Theses and Dissertations (OATD), and the European Science Research Council. The keywords used for searches were "public service motivation" and "PSM". In June 2019, we conducted an additional online search, incorporating scholarly articles published in 2018 and 2019. We carefully followed the MAER reporting guidelines developed by Stanley et al. (2013).

The present study excluded articles that applied constructs resembling "Public Service Motivation" (e.g., work motivation in the public sector and prosocial motivation) because a meta-regression requires a homogeneous independent variable. Furthermore, research studies in which the sample respondents included private- or non-profit-sector workers were also excluded.

Next, various outcome variables used by researchers were grouped together to create five distinct categories of outcome variables that had garnered substantial research attention: job satisfaction, individual performance, turnover intent, organizational commitment, and OCB. This yielded a total of 80 published and unpublished studies, the data from which were subsequently coded into an Excel spreadsheet. All three researchers discussed and finalized the coding scheme on multiple occasions before a single researcher carried out the final coding. Studies that presented coding difficulties were discussed and the issues resolved through consultations among all three researchers.

Although leading scholars have recommended that all empirical research using regression analysis should include the standard errors and actual p-values of each coefficient (Meyer, van Witteloostuijn, and Beugelsdijk 2017), many researchers do not adhere religiously to these guidelines. During the coding process, we encountered a number of studies that reported neither the standard errors nor the t-values for the coefficient. As these are required for a meta-regression analysis, we applied additional techniques to make it possible to retain

the maximum number of studies and estimations. Using a p-value estimator, the given degrees of freedom, and the p-value disclosed in each study, we estimated the t-statistic for each estimation that did not disclose it. Furthermore, in early October 2019 we e-mailed the authors of the papers for which we could not derive t-values and waited one month for the responses. By early November we had obtained useful information on 7 papers, including 10 estimations.

Regrettably, articles that failed to report neither the exact p-value nor the standard error or t-value, or from which we did not obtain useful information from the authors, had to be excluded from our study. After these steps were completed, the sample included 61 articles that estimated the impact of PSM on at least one of the five outcome variables of interest. The final screening criterion was applied to estimations that reported more than one PSM effect size for a single estimation. This occurred when multiple dimensions of PSM were incorporated as independent variables into the same estimation. As these studies yielded multiple coefficients from the same estimation, they violated the principal of estimation independence. They were therefore excluded, while estimations that incorporated only one dimension of PSM or a composite of two or more dimensions in a given estimation were retained.

The final basic sample included 53 studies and 185 estimations. Furthermore, we checked the robustness of our basic results further by including average values for the target variables from estimations that introduced several dimensions independently. Our extended sample included 61 studies and 205 estimations. Overall, taking into account the summary statistics in Table 1 we were able to use 76% of the studies from our search in our analysis. In addition, our extended analysis reported below included 205 estimations of 282, which means that we were able to use the 73% of the estimations in the eligible papers.

### *Method of Analysis*

The present meta-regression analysis has two objectives. First, it allows us to observe the impact of the model specifications used in various studies and to explore whether the divergence in results can be partly attributed to them. We have considered a number of variables, including the study sample size (*SampleSize*), the journal impact factor (*ImpactFactor*), the use of logistic regression (*LogisticReg*) or SEM regression (*SEMReg*), and the use of a one-dimensional measure of PSM or a composite measure of multiple dimensions (*CompositeMeasure*). While *SampleSize* and *ImpactFactor* are continuous variables, *LogisticReg*, *SEMReg*, and *CompositeMeasure* are dummy variables. We initially wanted to include other variables, such as an organization's level of government (whether federal, state, or municipal), where the data were collected, and the type of work performed by employees; however, many studies did not include adequate information on these variables. We also considered the year for which the data in the studies was collected; however, the results for this variable were never significant, and we decided not to consider it because several studies lacked this information, and our samples were reduced.

The second objective was to discern the impact of two other study characteristics that seemed pertinent to our relationships of interest. These were the variables introduced in earlier sections of this paper, namely, the legal origin of the country where the data were collected and the perceived level of endemic countrywide corruption. As French, German, Socialist, and Scandinavian legal origins are sub-traditions derived from civil law, we have used the two broad legal families of common law and civil law for reasons of parsimony, an approach also favored by earlier researchers. For instance, La Porta, Lopez-de-Silanes, and Shleifer (1999:231) state that "The distinctions between the French, German, and Scandinavian families are relatively subtle...but the distinctions between socialist, civil, and common law traditions are not." Consequently, we have used a dummy variable for *CommonLaw* where the value of

1 connotes a common-law legal origin and 0 connotes any other legal origin (we have no observation from socialist legal origin in our sample).

The second study characteristic was endemic countrywide corruption. A number of tools for measuring corruption are available to researchers, of which the most frequently used are the Corruption Perception Index (CPI), the Control of Corruption (CC), and the Corruption Index (CI). This study uses the Corruption Perception Index (CPI) published by Transparency International (TI). The CPI score for each country is based on data gathered from 13 different organizations; it represents a composite of the subjective evaluations of business executives and experts on a variety of corrupt practices in the public sector, as well as preventative mechanisms used to control corruption. Each country is scored on a scale ranging from 0 to 100, with higher scores signifying lower levels of perceived endemic corruption in the country. To make the interpretation of our results easier and more intuitive, we multiplied each country score by -1, so that lower scores would correspond to lower levels of perceived corruption. We are aware that the CPI measure has some faults. Most obviously, it is a perceptual measure based on individual opinions, rather than an objective measure of corruption. However, scholars have pointed out that corruption cannot be measured objectively because it generally involves covert actions (Wilhelm 2002). Next, various definitions of corruption exist; the one used by TI relies on the concept of “misuse of public power.” As the term “misuse” has a range of meanings and implications, it may be understood differently by various respondents (Lancaster and Montinola 1997). Kaufman, Kraay, and Mastruzzi (2009) have pointed out that the CPI does not include household-survey data, an important data source. Despite these shortcomings, Judge, McNatt, and Xu (2011), in their analysis of various perceptual measures of corruption used in the literature, note that the CPI has higher reliability and validity than other tools; they recommend its use to future researchers for this reason.

One critical decision that researchers face when carrying out a meta-regression is which metric to use in the analysis (Geyskens et al. 2009). Stanley and Jarrell (1989) have warned that regression coefficients are not comparable across studies because they use different units of measurement. We followed recommendations in Stanley and Doucouliagos (2012, 24-25) and used partial correlation coefficient,  $r$ , which has the advantage that it is a unitless measure, thus allowing comparison between studies. Partial correlation can be calculated from t-values and degrees of freedom ( $r=[t/\text{SQRT}(t^2+df)]$ ). Therefore, we have adopted this approach in the present analysis.

Our final sample included a total of 185 estimations with 51, 54, 24, 26, and 30 estimations for job satisfaction, individual performance, turnover intent, organizational commitment, and OCB, respectively. Appendix 1 lists all the studies included in the main meta-regression.

We used the following equation to measure the impact of the moderator variables on the relationship between PSM and job satisfaction:

$$r_i = \alpha_0 + \alpha_1\text{SampleSize}_i + \alpha_2\text{ImpactFactor}_i + \alpha_3\text{LogisticRegression}_i + \alpha_4\text{SEMReg}_i + \alpha_5\text{CompositeMeasure}_i + \alpha_6\text{Corruption}_i + \alpha_7\text{CommonLaw}_i + \varepsilon_i$$

The  $r_i$  was the partial correlation calculated for each estimation. We tested for multicollinearity and obtained a very low mean value of 1.58 for the Variance Inflation Factor (VIF). Next, we used a similar equation to estimate the impact of these moderators on the relationship between PSM and individual performance. Here, as all estimations relied on a composite measure of PSM, the *CompositeMeasure* variable was dropped from the equation. The resulting equation was as follows:

$$r_i = \alpha_0 + \alpha_1 \text{SampleSize}_i + \alpha_2 \text{ImpactFactor}_i + \alpha_3 \text{LogisticRegression}_i + \alpha_4 \text{SEMReg}_i + \alpha_5 \text{Corruption}_i + \alpha_6 \text{CommonLaw}_i + \varepsilon_i$$

The test for multicollinearity showed a VIF of 1.66, which was also very low. To examine the impact of moderating factors on the relationship between PSM and turnover intent, we first homogenized the signs, ensuring that a higher coefficient represented a decrease in turnover intent, and then ran the basic estimation. As we obtained a somewhat high VIF (mean VIF 3.99), indicating relevant multicollinearity between a few variables (4.78 for *Corruption*), we decided to exclude this variable from the regression, arriving at the following equation:

$$r_i = \alpha_0 + \alpha_1 \text{SampleSize}_i + \alpha_2 \text{ImpactFactor}_i + \alpha_3 \text{LogisticRegression}_i + \alpha_4 \text{SEMReg}_i + \alpha_5 \text{CompositeMeasure}_i + \alpha_6 \text{CommonLaw}_i + \varepsilon_i$$

After *Corruption* was eliminated, the VIF dropped to an average of 2.98. Next, we regressed the moderators of the relationship between PSM and organizational commitment, excluding the variable *LogisticReg* as no studies employed that approach. Confronted with a relatively high VIF (mean VIF 4.72), signaling high multicollinearity between the variables (8.55 for *CommonLaw*), we decided to exclude the variable *CommonLaw* from this regression. The regression equation ultimately used to estimate the effect of moderators on the relationship between PSM and organizational commitment was as follows:

$$r_i = \alpha_0 + \alpha_1 \text{SampleSize}_i + \alpha_2 \text{ImpactFactor}_i + \alpha_3 \text{SEMReg}_i + \alpha_4 \text{CompositeMeasure}_i + \alpha_5 \text{Corruption}_i + \varepsilon_i$$

After *CommonLaw* was eliminated, the VIF fell to an average of 1.91. The last equation we estimated measured the impact of moderators on the relationship between PSM and organizational citizenship. Since all estimations in this analysis used composite measures, the variable *CompositeMeasure* was excluded from the regression. The resulting equation had an acceptable VIF (2.78). The equation was as follows:

$$r_i = \alpha_0 + \alpha_1 \text{SampleSize}_i + \alpha_2 \text{ImpactFactor}_i + \alpha_3 \text{LogisticRegression}_i + \alpha_4 \text{SEMReg}_i + \alpha_5 \text{Corruption}_i + \alpha_6 \text{CommonLaw}_i + \varepsilon_i$$

## Results

The meta-regression analysis was conducted with Stata 14. Before we conducted the main analysis, we tested all of the meta-regression models for heteroscedasticity. The results showed that heteroscedasticity was problematic in the estimations for several outcomes. Nelson and Kennedy (2009) have warned against the problem of autocorrelation present in many meta-analytic studies and discussed its root cause. The present study encountered some related issues, including the presence of multiple estimations from a single study, the use of common datasets, and multiple studies by the same group of researchers. To address the problem of auto-correlation within estimations belonging to the same study, first we used clustered robust variance estimators. Furthermore, we followed the advice of Ringquist (2013) and used generalized estimating equations (GEE) to estimate a random effects meta-regression model, grouping together estimations obtained from the same study. As we carried out five distinct meta-regressions, we will discuss the results of each in turn.



### *Job Satisfaction*

The results of the meta-regression of the relationship between PSM and job satisfaction are presented in Table 2.

-Table 2 -

When the more robust GEE method was used to carry out the meta-regression, the estimate results changed only slightly. The meta-regression results revealed that two model specification variables in the GEE estimation had a significant impact on the relationship between PSM and job satisfaction. The first one was *CompositeMeasure* ( $p < .05$ ), whereby studies using composite measures detect a weaker positive relationship. The other significant moderating variable was *Corruption* ( $p < .05$ ). The positive moderation revealed a stronger link between PSM and job satisfaction when a country was perceived as more corrupt.

### *Individual Performance*

As all estimations used a composite measure of PSM, the dummy *CompositeMeasure* was excluded from the equation. The resulting meta-regression was estimated using clustered robust estimation; GEE produced the same results. The results are presented in Table 3.

-Table 3 -

*SampleSize* was once again a significant moderator ( $p < .05$  and  $p < .01$ ), and negatively moderated the impact of PSM on individual performance. Another specification characteristic found to be significant ( $p < .05$ ) was *LogisticReg*, where applying the logistic regression method strengthened the relationship.

### *Turnover Intent*

Although the number of estimations, including turnover intentions, appeared to be low, at 24, Hedges, Tipton, and Johnson (2010) provide evidence that meta-regression analyses with 20–40 estimations provide robust confidence intervals for coefficients. Previous meta-regression studies in public administration and management have used a similar number of estimations for their analyses (e.g., Homberg, McCarthy, and Tabvuma 2015).

#### *- Table 4 -*

The relationship between PSM and turnover intent is generally an inverse relationship. The results of the present meta-regression show that the strength of this relationship increases in common-law countries ( $p < .05$ ), suggesting that employees with higher PSM in common-law countries are less likely to leave their organizations. Studies with smaller sample sizes ( $p < .10$  and  $p < .05$ , respectively) show a weaker relationship with turnover intent. It is also worth noting that most articles published in higher-impact-factor journals present evidence of a weaker relationship ( $p < .05$  and  $p < .01$ , respectively). In other words, unpublished studies and those in lower-impact-factor journals (subject to a less rigorous review process) tend to portray the relationship as stronger. Finally, the variable, *SEM*, also appeared to be significant in both models ( $p < .10$  and  $p < .01$ ).

### *Organization Commitment*

As no estimations in our sample used the logistic-regression method, the dummy variable *LogisticReg* was excluded. A preliminary meta-regression had an excessively high VIF. This problem was resolved by excluding the variable *CommonLaw*. The resulting equation was run using GEE; again, the results were similar to the clustered robust estimation.

#### *-Table 5-*

Perceived endemic countrywide corruption impacted the relationship ( $p < .05$ ) such that a lower perception of corruption increased the impact of PSM on an individual's commitment to the organization he or she worked for. In both estimations, this relationship was found to be weaker in studies with larger sample size ( $p < .01$  and  $p < .10$ ). Furthermore, in the clustered robust estimation we found weak indication ( $p < .10$ ) that studies that carried out a SEM estimation increased the impact of PSM on Organizational Commitment.

#### *Organizational Citizenship Behavior (OCB)*

Since all estimations used a composite measure of PSM, the dummy variable *CompositeMeasure* was excluded. Here too, the results obtained through the Clustered Robust and GEE methods were almost identical. The only moderator that did not show significance for the relationship between PSM and individual citizenship behavior in an organization was *Logistic*. Studies conducted with *SEM*, based in countries with common-law traditions and higher levels of perceived endemic corruption, showed a stronger association between PSM and OCB; the opposite pattern was seen in studies with larger sample size and those published in higher impact outlets.

- Table 6 -

#### *Publication Bias and the Presence of a Genuine Effect*

Publication bias may be a relevant limitation of meta-regression analyses because studies that find significant relationships between variables are more likely to be published than those that do not (Stanley 2005). Funnel asymmetry tests (FAT) can be used to identify publication bias (Stanley 2005; Stanley and Doucouliagos 2012). FAT tests are based on the study's estimation of the reported effect and its standard errors. The key issue in publication bias is whether the intercept is significantly different from zero (results from all estimations addressing publication

bias are displayed as supplementary materials in Appendix 2, and available upon request. Supplementary materials also include a variety of robustness checks in Appendix 3).

We found no indication of publication bias in relation with Individual Performance, Turnover Intent, and Organization Commitment, where the FAT (1) intercept did not differ significantly from zero. In the case of Job Satisfaction and OCB, the FAT1 test identified indication of publication bias ( $p < .05$  and  $p < .10$ , respectively). To check the robustness of our FAT estimates, we carried out FAT-PET estimations (Stanley and Doucouliagos 2012, 68). This confirmed that there was no indication of publication bias for OCB. It did still find an indication of publication bias for Job Satisfaction ( $p < .01$ ).

We filtered the publication bias by estimating a multivariate FAT meta-regression model (Stanley 2005), following methodological guidelines proposed in Bel, Fageda, and Warner (2010). We re-estimated the corresponding equation, replacing Sample Size with inverse standard errors— $1/SE$ —for Job Satisfaction. The results that we obtained were practically identical from those obtained with the clustered robust estimation, and from those with GEE. We therefore concluded that publication bias was not a relevant problem.

Finally, as indicated in Stanley and Doucouliagos (2012, 62–63), “the coefficient on  $1/SE$  ... serves as a test of whether or not there is a genuine underlying empirical effect beyond the potential distortion due to publication selection.” Note that we used the *precision-effect estimate with standard error* (PEESE) for those dimensions for which we found indication of publication bias. In this regard, we found a genuine positive effect of PSM on Job Satisfaction ( $p < .01$  PEESE), Individual Performance ( $p < .05$ ), Organizational Commitment ( $p < .01$ ) and OCB ( $p < .01$  PEESE). We did not find a genuine effect on Turnover Intent.

To sum up, the present results yield support for our initial Hypothesis 1 stating that PSM drives positive work-related behaviors, with the only exception of Turnover Intent (H1c). As for the role of contextual variables described in our second and third hypothesis, the results

are mixed. Our second hypothesis predicts that the relationship between PSM and positive work behaviors is moderated by legal origin. In such a way that countries from a common law tradition will see a stronger relation between PSM and positive work behaviors. Our results show that the only two variables moderated by common law countries are OCB and Turnover Intentions. The relationship between PSM and OCB is stronger for those individuals from common law countries. In addition, individuals from common law countries see a stronger relationship between PSM and turnover intent. Hence, H2 is only partially supported. As for the third and last hypothesis, regarding the moderation role of corruption, the results are also mixed. The predicted negative moderation effects of corruption only apply to one of the dependent variables: Organizational Commitment. Interestingly, however, we do see a positive moderation effect of corruption for Job Satisfaction and for OCB. Thus, individuals working in corrupt countries see a stronger effect of PSM on Job Satisfaction and OCB, and a weaker effect over Organizational Commitment.

## **Discussion**

Is PSM a desirable feature in the public sector workplace? The answer is yes, although certain substantive caveats apply. First, our analysis reveals that PSM has a genuine effect on employee work-related behaviors. That said, it is important to note that these results are based on the analysis of original studies, many of which may suffer from common-source bias, due to the cross-sectional nature of the data collection employed. Consequently, the results of this study should be interpreted with some degree of caution.

Moreover, context seems to play a key role in understanding some of the differences found across the effects of PSM on work-related behaviors. The first variable that we have analyzed to further understand the effects of context is the legal origin of the studied country. Legal-origin theory stipulates that the two main types of legal origin, common law and civil

law, are distinct, not only in their structure, but also in their impact on a country's institutional environment (Botero et al. 2004). The purpose that institutions serve influences the way they function. While civil-law tradition embodies "the intent to build institutions to further the power of the State," common-law tradition embodies "the intent to limit rather than strengthen the State" (La Porta et al. 1999, 231–32). Consequently, the perceived role of government in common-law tradition is to provide market support and dispute resolution, while the perceived role of government in civil-law tradition is to implement policy, following rules and established procedures to the letter (Damaška 1986). Our results suggest that countries with common-law traditions have a stronger relationship between PSM and OCB. In a similar vein, the role of PSM in reducing turnover intent is enhanced in these countries. Much of the economics and finance literature presents the positive effects of a common-law legal origin on various outcomes, including the ability to attract financial capital, and the stability of financial markets (Botero et al. 2004; La Porta, Lopez-de-Silanes, and Shleifer 2008; La Porta et al. 1999). Our results add more evidence on the way in which common-law traditions enhance PSM related Positive Work Behaviors.

The other contextual factor that moderates the impact of PSM is corruption, which has an effect on the relationship between PSM and three outcome variables: job satisfaction, organizational commitment, and OCB. Surprisingly, we found that corruption did not moderate negatively, but positively the relation between PSM and job satisfaction and OCB. At first glance, the moderating impact of perceived endemic corruption on the relationship between PSM and job satisfaction seems counter-intuitive. The coefficient for the moderating variable is positive, implying that a higher level of perceived endemic corruption strengthens the relationship, while a lower level of perceived endemic corruption weakens the relationship. While these results are counterintuitive, we argue that they can be explained by two different, although complementary aspects. First, in highly corrupted countries public servants may see

their job as being very important to serve the society, considering that citizens are exposed to a highly corrupted public sector. Recall that pervasive corruption within organizations creates a general feeling of distrust within various levels of bureaucracy (Gould and Amaro-Reyes 1980). Hence, they can think of themselves as making a real difference. Second, in highly corrupted countries the working conditions of public employees do not tend to be very good, in terms of salary, promotion opportunities, etc. (Lok and Crawford 2001). Factors that would usually increase the job satisfaction and OCB of an employee are not usually present in these countries. As such, the main driver to keep them satisfied in their jobs and to display OCB among their colleagues may be PSM. The results of our meta-regression point to the increased importance of PSM in influencing employee job satisfaction in environments that lack other contextual factors that enhance job satisfaction. In more endemically corrupt countries, employees need a lower level of public-service motivation to find satisfaction in their jobs and to be committed towards their organizations. Conversely, in countries with lower endemic corruption, PSM has less influence on employee job satisfaction and organizational commitment, due to the prevalence of other positive factors.

At the same time, an examination of the relationship between PSM and organizational commitment shows that corruption plays a negative moderating role, producing a weaker relationship between variables when the perceived levels of corruption are high. This result is much more intuitive, given the impact of corruption within organizations. As the prevalence of corruption is linked to inefficient resource-allocation decisions (Mauro 1998), lower levels of perceived endemic corruption may signal an efficient use of state resources to benefit society. Employees may perceive a stronger alignment between individual and organizational values, forming the basis for each individual's commitment to the organization (Kim 2012).

Some study characteristics, such as sample size and impact factor, had a significant impact on the relationship between PSM and some outcome variables. The results show that

large samples are more likely to detect the relationship between PSM and both job satisfaction and organizational citizenship. The opposite is true for individual performance: larger sample studies are less likely to detect a relationship between PSM and individual performance. However, the impact of sample size on these relationships is very small, as indicated by the size of the coefficients. Notwithstanding the statistical significance of sample size, we may question its relevance, given these extremely small coefficients (Combs 2010).

Another interesting insight involves the methods of measurement used by different studies. For the sake of parsimony, we have distinguished only between multi-dimensional measures and uni-dimensional measures that use any one of the four dimensions. Kim and Vandenberg (2010, 706) have argued that, as PSM is a formative construct, all four dimensions must be retained: “dropping one dimension may alter the meaning of PSM”. Wright (2008) highlights the importance of measurement equivalence in ensuring comparable results. By contrast, our own results indicate that using a multi-dimensional rather than uni-dimensional measure has no significant impact, except in assessing the relationship of PSM with organizational commitment and turnover intent. This finding partially supports Harari et al. (2017), who affirmed the “equivalence of different measurement methods” and favored the use of multi-dimensional and uni-dimensional measures to compare study results.

### **Limitations**

Despite having been carried out with the utmost rigor, this review has some limitations. The present study initially relied primarily on the online PSM database maintained by Professor James Perry when selecting research for analysis. This database is very comprehensive and includes both published and unpublished research, not only in the field of public management but also in other disciplines, including human-resource management. Although we



supplemented the list by conducting searches on other online portals, some studies may have been accidentally omitted.

Second, despite our attempt to include all relevant PSM research in this review, several studies lacked some information required for inclusion in our quantitative analysis. For this reason, estimations derived from those studies could not be accounted for in the present analysis and results. Third, since meta-regression analyses require a degree of uniformity to measure independent variables, we were unable to include studies that used similar but different motivational constructs. We were therefore forced to exclude studies that offered interesting insights into the relationship between PSM and our dependent variables. Adhering to standardized guidelines when conducting meta-analyses decreases the risks posed by subjectivity (Aytug et al. 2012); for this reason, we followed the MAER reporting guidelines in conducting this study. Lastly, we acknowledge that the number of estimations in our meta-regression for turnover intention and organizational commitment are small. We hope that as more empirical evidence about these relationships is amassed further meta-analyses would be performed for these relationships again.

## **Conclusions**

Perry (2014, 38) recently conceived of a third wave of PSM research, which would “involve learning from past research and filling shortcomings and gaps” in the current literature. Other scholars have pointed out that the Popperian principal of falsification not only requires the publication of null findings and negative results, but also syntheses of those results by means of meta-analyses (van Witteloostuijn 2016). With these recommendations in mind, we have delved into the existing PSM research, which spans more than two decades of scholarly work, to reconcile the current literature and highlight unexplored gaps. We have shown that, despite overall support for the individual benefits of employee PSM, there are variations in these

findings, caused by measurement methods and environmental causes. While it is clear that a relationship exists between PSM and beneficial outcomes in the organizational context, a country's legal origins and level of endemic corruption will concentrate or dilute these benefits. The present study demonstrates that PSM plays an even greater role in enhancing the job satisfaction of public-sector employees in endemically corrupt countries than in countries with lower levels of corruption. This finding will be valuable for practitioners working in countries at higher risk of endemic corruption, where managers must invest more heavily in strategies that nurture PSM to boost workforce job satisfaction. The present study also shows that lower levels of perceived corruption strengthen the impact of PSM on organizational commitment. The prevalence of corruption not only directly influences organizations (via the mechanisms outlined earlier), but has indirect effects that reduce organizational commitment. Furthermore, our findings show that countries with common-law traditions benefit more from PSM through increased OCBs and reduced turnover intentions.

These findings have important implications for the theory of PSM. Our results can help refine the theory of PSM by showing that individual and organizational benefits of PSM are not accrued equally in all public sector workplaces. These benefits, in the form of positive work behaviors, are contingent on certain environmental factors. These contingencies, the legal origins and endemic countrywide corruption need to be incorporated in the theory of PSM.

Although we introduced some moderators into our meta-regression analysis, we were unable to include others, due to a lack of information. It is worth noting that we consider it very valuable to assess other contextual factors, such as the hierarchical level of government (i.e., municipal, local, or federal) in which respondents work and to ascertain whether such factors influence the effects of PSM on the variables discussed above. We believe that future studies should investigate the type of services provided by government organizations and their role in moderating the impact of PSM on organizational and individual outcomes.

This analysis has shown that every individual and organizational benefit of PSM can be experienced in particular environmental settings. The exact mechanisms through which the environmental factors of perceived endemic corruption and legal origin impact the relationship between PSM and the outcome variables remains unclear; however, we hope that future scholars will delve more deeply into this area and offer further elucidation. Despite extensive research on perceived corruption and legal-origin theory in the economic literature, these issues have been largely ignored in public-management research. We strongly recommend PSM scholars to further explore the theoretical mechanisms through which context influences the extent to which PSM can produce positive outcomes in the workplace.

**Table1. Synthesis of the main research findings on PSM and the dependent variables**

	<b>Estimations</b>	
<b><i>Job Satisfaction</i></b>		
Positive significant	38	56%
Not significant	29	43%
Negative significant	1	1%
<i>Total</i>	68	100%
<b><i>Individual Performance</i></b>		
Positive significant	39	51%
Not significant	31	41%
Negative significant	6	8%
<i>Total</i>	76	100%
<b><i>Turnover Intent</i></b>		
Positive significant	8	24%
Not significant	14	42%
Negative significant	11	33%
<i>Total</i>	33	100%
<b><i>Org Commitment</i></b>		
Positive significant	35	70%
Not significant	14	28%
Negative significant	1	2%
<i>Total</i>	50	100%
<b><i>OCB</i></b>		
Positive significant	41	84%
Not significant	6	12%
Negative significant	2	4%
<i>Total</i>	49	100%

**Table 2. Meta Regression estimates for Job Satisfaction**

	Cluster Robust	GEE
Sample size	-1.32e-05 (9.04e-06) [.159]	-8.66e-06 (6.97e-06) [.214]
Impact Factor	0.0005 (0.0244) [.985]	-0.0253 (0.0240) [.291]
Logistic Regression	0.0597 (0.0799) [.452]	0.0629 (0.0444) [.157]
SEM Regression	-0.0274 (0.0599) [.652]	-0.0028 (0.0423) [.948]
Composite Measure	-0.0659 (0.0633) [.309]	-0.0839 (0.0425) [.048]
Corruption	0.0038 (0.0015) [.019]	0.0032 (0.0014) [.015]
Common Law	0.0006 (0.0667) [.993]	-0.0410 (0.0325) [.206]
Constant	0.4473 (0.1240) [.002]	0.4701 (0.1209) [<.001]
N	51	51
R <sup>2</sup>	0.2109	
F	2.40 [.055]	
Wald chi <sup>2</sup>		15.43
Prob > chi <sup>2</sup>		[.031]

Note: Standard errors in parentheses; *p*-values in brackets.

**Table 3. Meta Regression estimates for Individual Performance**

	Cluster Robust	GEE
Sample size	-2.24e-06 (8.14e-07) [.015]	-2.25e-06 (7.29e-08) [.003]
Impact Factor	-0.0111 (0.0292) [.709]	-0.0140 (0.0289) [.628]
Logistic Regression	0.0358 (0.0168) [.050]	0.0341 (0.0010) [.021]
SEM Regression	0.1215 (0.0778) [.139]	0.1186 (0.0713) [.096]
Corruption	-0.0008 (0.0016) [.640]	-0.0008 (0.0015) [.609]
Common Law	-0.0431 (0.0342) [.226]	-0.0479 (0.0349) [.170]
Constant	0.0137 (0.1388) [.923]	0.0203 (0.1309) [.877]
N	54	54
R <sup>2</sup>	0.2881	
F	3.21 [.031]	
Wald chi <sup>2</sup>		19.91
Prob> chi <sup>2</sup>		[.003]

Note: Standard errors in parentheses; *p*-values in brackets.

**Table 4. Meta Regression estimates for Turnover Intent**

	Clustered Robust	GEE
Sample size	-2.58e-05 (1.12e-05) [.050]	-2.54e-05 (5.62-06) [<.000]
Impact Factor	-0.1119 (0.0470) [.045]	-0.1076 (0.0271) [<.000]
Logistic Regression	-0.0409 (0.0239) [.125]	-0.0209 (0.0025) [<.000]
SEM Regression	-0.0933 (0.0470) [.083]	-0.0955 (0.0289) [.001]
Composite Measure	-0.0037 (0.0293) [.903]	0.0092 (0.0156) [.554]
Common Law	0.2248 (0.0837) [.028]	0.1929 (0.0450) [<.000]
Constant	0.0649 (0.0221) [.019]	0.0763 (0.0297) [.010]
N	24	24
R <sup>2</sup>	0.4190	
F	14.49*** [<.000]	
Wald chi <sup>2</sup>		3122.19
Prob > chi <sup>2</sup>		[<.000]

Note: Standard errors in parentheses; *p*-values in brackets.

Turnover Intent has been recoded, such as that higher levels reflect a stronger intention to stay in the organization.

**Table 5. Meta Regression estimates for Organizational Commitment**

	Cluster Robust	GEE
Sample size	-1.53e-04 (4.31-e-05) [.005]	-1.38e-04 (7.89e-05) [.081]
Impact Factor	-0.0226 (0.0411) [.594]	-0.0233 (0.0334) [.431]
SEM Regression	0.1164 (0.0637) [.095]	0.0910 (0.0797) [.253]
Composite Measure	0.0641 (0.0966) [.520]	0.0354 (0.0366) [.332]
Corruption	-0.0067 (0.0025) [.021]	-0.0034 (0.0017) [.037]
Constant	-0.1527 (0.1675) [.381]	-0.0822 (0.1172) [.483]
N	26	26
R <sup>2</sup>	0.4605	
F	10.21 [<.000]	
Wald chi <sup>2</sup>		7.58
Prob > chi <sup>2</sup>		[.181]

Note: Standard errors in parentheses; *p*-values in brackets.



**Table 6. Meta Regression estimates for Organizational Citizenship Behavior**

	Clustered Robust	GEE
Sample size	-3.52e-05 (1.56e-05) [.040]	-3.44e-05 (1.41e-05) [.014]
Impact Factor	-0.1250 (0.0433) [.012]	-0.1163 (0.0427) [.006]
Logistic Regression	0.1208 (0.0947) [.223]	0.1254 (0.838) [.135]
SEM Regression	0.1287 (0.0455) [.013]	0.1274 (0.0432) [.003]
Corruption	0.0054 (0.0018) [.010]	0.0053 (0.0016) [.001]
Common Law	0.4598 (0.1365) [.005]	0.4433 (0.1283) [.001]
Constant	0.4323 (0.0697) [<.000]	0.4249 (0.0636) [<.000]
N	30	30
R <sup>2</sup>	0.6263	
F	23.13 [<.000]	
Wald chi <sup>2</sup>		256.27
Prob > chi <sup>2</sup>		[<.000]

Note: Standard errors in parentheses; *p*-values in brackets.

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## Supplementary Material

### Appendix1. List of all studies included in the main analysis

	Study	Type	Method	Year (data)	Country
1	Abdelmotaleb, Moustafa, and Sudhir K. Saha. 2019. Corporate Social Responsibility, Public Service Motivation and Organizational Citizenship Behavior in the Public Sector. <i>International Journal of Public Administration</i> 42(11): 929-939.	Article	SEM		Egypt
2	Alonso, Pablo, and Gregory B Lewis. 2001. "Public Service Motivation and Job Performance: Evidence from the Federal Sector." <i>American Review of Public Administration</i> 31 (4): 363–80.	Article	Logit &OLS	1991 - 1992	U.S
3	Alreshoodi, Saleh Abdullah. 2016. "Negative Institutional Influences in the Saudi Public Sector: Wasta, Public Service Motivation and Employee Outcomes." Cardiff University.	Dissertation	OLS		Saudi Arabia
4	Andersen, Lotte Bøgh, Eskil Heinesen, and Lene HolmPedersen. 2014. "How Does Public Service Motivation among Teachers Affect Student Performance in Schools?" <i>Journal of Public Administration Research and Theory</i> 24 (3): 651–71.	Article	Fixed effects regression	2009 - 2011	Denmark
5	Breaugh, Jessica, Adrian Ritz, and Kerstin Alfes. 2018. Work Motivation and Public Service Motivation: Disentangling Varieties of Motivation and Job Satisfaction. <i>Public Management Review</i> 20(10): 1423-1443.	Article	Hierarchical regression	2014	Switzerland
6	Birhane, Lakew Alemu. 2017. "Citizenship Behavior and Turnover Intention: The Role of Public Service Motivation and Career Commitments." Tilburg University.	Dissertation	OLS		Ethiopia
7	Chen C A, Hsieh CW. 2015. Knowledge Sharing Motivation in the Public Sector: The Role of Public Service Motivation. <i>International Review of Administrative Sciences</i> . 81(4):812-32.	Article	OLS		Taiwan
8	Bright, Leonard. 2007. Does Person-Organization Fit Mediate the Relationship Between Public Service Motivation and the Job Performance of Public Employees? <i>Review of Public Personnel Administration</i> , 27(4), 361-379.	Article	SEM	2006	U.S.
9	Bright, Leonard. 2008. Does Public Service Motivation Really Make a Difference on the Job Satisfaction and Turnover Intentions of Public Employees? <i>The American Review of Public Administration</i> , 38(2), 149-166.	Article	SEM	2006	U.S.
10	Caillier, James Gerard. 2011. Are State Government Workers Satisfied with their Jobs When the Organization is Effective? <i>Public Administration Quarterly</i> , 35(1), 93-127.	Article	OLS	2009	U.S.

11	Caillier, James Gerard. 2014. Toward a Better Understanding of the Relationship Between Transformational Leadership, Public Service Motivation, Mission Valence, and Employee Performance: A Preliminary Study. <i>Public Personnel Management</i> , 43(2), 218-239.	Article	Ordinal Logit	2012	U.S.
12	Caillier, James Gerard. 2015. Towards A Better Understanding of Public Service Motivation and Mission Valence in Public Agencies. <i>Public Management Review</i> , 17(9), 1217-1236.	Article	SEM	2012	U.S.
13	Caillier, James Gerard. 2015. Transformational Leadership and Whistle-Blowing Attitudes: Is This Relationship Mediated by Organizational Commitment and Public Service Motivation. <i>The American Review of Public Administration</i> , 45(4), 458-475.	Article	SEM	2012	U.S.
14	Caillier, James Gerard. 2016. Does Public Service Motivation Mediate the Relationship between Goal Clarity and both Organizational Commitment and Extra-Role Behaviours? <i>Public Management Review</i> , 18(2), 300-318.	Article	SEM	2012	U.S.
15	Caillier, James Gerard. 2017. Public Service Motivation and Decisions to Report Wrongdoing in U.S. Federal Agencies: Is This Relationship Mediated by the Seriousness of the Wrongdoing. <i>American Review of Public Administration</i> , 47(7), 810-825.	Article	Logistic	2010	U.S.
16	Campbell, Jesse W., Tobin Im, and Jisu Jeong. 2014. Internal efficiency and turnover intention: Evidence from local government in South Korea. <i>Public Personnel Management</i> , 43(2), 259-282.	Article	Fixed and random effects & ordinal logistic	2012	Korea
17	Gross, Hellen P., Julia Thaler, and Vera Winter. 2019. Integrating Public Service Motivation in the Job-Demands-Resources Model: An Empirical Analysis to Explain Employees' Performance, Absenteeism, and Presenteeism. <i>International Public Management Journal</i> 22(1): 176-206	Article	SEM	2015	Germany
18	Gould-Williams, Julian Seymour, Paul Bottomley, Tom Redman, Ed Snape, David J. Bishop, Thanawut Limpanitgul, and Ahmed Mohammed Sayed Mostafa. 2014. Civic Duty and Employee Outcomes: Do High Commitment Human Resource Practices and Work Overload Matter? <i>Public Administration</i> , 92(4), 937-953.	Article	SEM	2006-2007	U.K.
19	Hattke, Fabian, Rick Vogel, and Judith Znanewitz. 2018. Satisfied with Red Tape? Leadership, Civic Duty, and Career Intention in the Military. <i>Public Management Review</i> 20(4): 563-586.	Article	SEM		Germany

20	Hsieh, Chih-Wei. 2018. No One Can Serve Two Masters: Revisiting the Interaction Effect of Love of Money and Public Service Motivation on Job Satisfaction." <i>Public Performance &amp; Management Review</i> 41(4): 745-767.	Article	OLS Regression		Taiwan
21	Im, Tobin, Jesse W. Campbell, and Jisu Jeong. 2016. Commitment Intensity in Public Organizations: Performance, Innovation, Leadership, and PSM. <i>Review of Public Personnel Administration</i> , 36(3), 219-239.	Article	Nested OLS	2012	Korea
22	Jin, Myung H., Bruce McDonald, and Jaehee Park. 2018. Does Public Service Motivation Matter in Public Higher Education? Testing the Theories of Person-Organization Fit and Organizational Commitment Through a Serial Multiple Mediation Model. <i>American Review of Public Administration</i> , 48(1), 82-97.	Article	OLS	2014	U.S.
23	Jin, Myung Hun, Bruce McDonald, and Jaehee Park. 2018. Person–Organization Fit and Turnover Intention: Exploring the Mediating Role of Employee Followership and Job Satisfaction Through Conservation of Resources Theory. <i>Review of Public Personnel Administration</i> 38(2): 167-192.	Article	OLS		U.S.
24	Kim, Sangmook. 2006. Public Service Motivation and Organizational Citizenship Behavior in Korea." <i>International Journal of Manpower</i> 27(8): 722-740.	Article	SEM		Korea
25	Kim, Sangmook. 2012. Does Person-Organization Fit Matter in the Public Sector? Testing the Mediating Effect of Person-Organization Fit in the Relationship between Public Service Motivation and Work Attitudes. <i>Public Administration Review</i> , 72(6), 830-840.	Article	Partial least square	2010	Korea
26	Kim, Sangmook. 2018. Public Service Motivation, Organizational Social Capital, and Knowledge Sharing in the Korean Public Sector. <i>Public Performance &amp; Management Review</i> 41(1): 130-151.	Article	SEM		Korea
27	León-Cázares, Filadelfo. 2011. "Organizational Citizenship Behaviors among Public Employees in Guadalajara Metropolitan Area, Mexico." University of North Texas.	Dissertation	SEM	2011	Mexico
28	Levitats, Zehavit, and Eran Vigoda-Gadot. 2017. Yours Emotionally: How Emotional Intelligence Infuses Public Service Motivation and Affects the Job Outcomes of Public Personnel. <i>Public Administration</i> 95 (3): 759–75.	Article	OLS	2014-2015	Israel
29	Liu, Bangcheng, and James L. Perry. 2016. The psychological mechanisms of public service motivation: A two-wave examination. <i>Review of Public Personnel Administration</i> 36(1): 4-30.	Article	SEM		China

30	Liu, Bangcheng, Thomas Li-Ping Tang, and Kaifeng Yang. 2015. When does Public Service Motivation Fuel the Job Satisfaction Fire? The Joint Moderation of Person- Organization Fit and Needs- Supplies Fit. <i>Public Management Review</i> , 17(6), 876-900.	Article	Hierarchical	2008, 2011 & 2012	China
31	Lynggaard, Mikkel, Mogens Jin Pedersen, and Lotte Bøgh Andersen. 2016. Exploring the Context Dependency of the PSM-Performance Relationship. <i>Review of Public Personnel Administration</i> , 1-23.	Article	Fixed effects & OLS	2011	Denmark
32	Miao, Q., Eva, N., Newman, A., and Schwarz, G. 2019. Public service motivation and performance: The role of organizational identification. <i>Public Money &amp; Management</i> 39(2): 77-85.	Article	Regression		China
33	Mostafa, Ahmed Mohammad Sayed. 2013. The Relationship between High Performance HR Practices and Employee Attitudes: The Mediating Role of Public Service Motivation and Person-Organization Fit. Cardiff University.	Dissertation	SEM	2012	Egypt
34	Naff, Katherine C., and John Crum. 1999. Working for America: Does Public Service Motivation Make a Difference? <i>Review of Public Personnel Administration</i> , 19(4), 5-16.	Article	Logistic	1996	U.S.
35	Palma, Raffaella, and Enrica Sepe. 2017. Structural Equation Modelling: A Silver Bullet for Evaluating Public Service Motivation. <i>Quality &amp; Quantity</i> , 51(2), 729-744.	Article	SEM	2015 - 2016	Italy
36	Pandey, Sanjay K., Bradley E. Wright, and Donald P. Moynihan. 2008. Public Service Motivation and Interpersonal Citizenship Behavior in Public Organizations: Testing a Preliminary Model. <i>International Public Management Journal</i> , 11(1), 89-108.	Article	SEM	2006	U.S.
37	Potapiroon, Wisanupong, Angsuthon Srisuthisa-ard, and Sue Faerman. 2019. Public Service Motivation and Customer Service Behaviour: Testing the Mediating Role of Emotional Labour and the Moderating Role of Gender. <i>Public Management Review</i> 21(5): 650-668	Article	OLS		Thailand
38	Potapiroon, Wisanupong, and Sue Faerman. 2016. What Difference Do Ethical Leaders Make? Exploring the Mediating Role of Interpersonal Justice and the Moderating Role of Public Service Motivation. <i>International Public Management Journal</i> , 19(2), 171-207.	Article	HLM	2014	Thailand
39	Potapiroon, Wisanupong, and Michael T. Ford. 2017. Does Public Service Motivation Always Lead to Organizational Commitment? Examining the Moderating Roles of Intrinsic Motivation and Ethical Leadership. <i>Public Personnel Management</i> , 46(3), 211-238.	Article	OLS	2014	Thailand

40	Qi, Fanhua, and Weijie Wang. 2018. Employee involvement, public service motivation, and perceived organizational performance: testing a new model. <i>International Review of Administrative Sciences</i> 84(4): 746-764.	Article	SEM	2013	China
41	Quratulain, Samina, and Abdul Karim Khan. 2015. Red tape, resigned satisfaction, public service motivation, and negative employee attitudes and behaviors: Testing a model of moderated mediation. <i>Review of Public Personnel Administration</i> 35(4): 307-332.	Article	Regression		Pakistan
42	Rayner, Julie, Vaughan Reimers, and Chih-Wei Fred Chao. 2017. Testing an International Measure of Public Service Motivation: Is There Really a Bright or Dark Side? <i>Australian Journal of Public Administration</i> , 77(1), 87-101.	Article	SEM	2015	Australia
43	Roh, Chul-Young, M. Jae Moon, Seung-Bum Yang, and Kwangho Jung. 2016. Linking Emotional Labor, Public Service Motivation, and Job Satisfaction: Social Workers in Health Care Settings. <i>Social Work in Public Health</i> , 31(2), 43-57.	Article	SEM	2007	U.S.
44	Schwarz, Gary, Alexander Newman, Brian Cooper, and Nathan Eva. 2016. Servant Leadership and Follower Job Performance: The Mediating Effect of Public Service Motivation. <i>Public Administration</i> 94(4): 1025-1041.	Article	Multilevel regression		China
45	Stazyk, Edmund C. 2012. Crowding Out Public Service Motivation? Comparing Theoretical Expectations with Empirical Findings on the Influence of Performance-Related Pay. <i>Review of Public Personnel Administration</i> , 33(3), 1-23.	Article	Ordered logistic	2007	U.S.
46	Steijn, Bram. 2008. Person-Environment Fit and Public Service Motivation. <i>International Public Management Journal</i> , 11(1), 13-27.	Article	OLS	2006	Netherlands
47	Taylor, Jeannette. 2007. The Impact of Public Service Motives on Work Outcomes in Australia: A Comparative Multi-dimensional Analysis. <i>Public Administration</i> , 85(4), 931-959.	Article	OLS	2004	Australia
48	Taylor, Jeannette. 2014. Public Service Motivation, Relational Job Design, and Job Satisfaction in Local Government. <i>Public Administration</i> , 92(4), 902-918.	Article	OLS	2010	Australia
49	Taylor, Jeannette, and Jonathan H. Westover. 2011. Job Satisfaction in the Public Service: The Effects of Public Service Motivation, Workplace Attributes and Work Relations. <i>Public Management Review</i> , 13(5), 731-751.	Article	OLS	2000 - 2005	Canada, Denmark, France, Germany, Norway, U.K., & U.S.
50	Tuan, Luu Trong, and Vo Thanh Thao. Charismatic Leadership and Public Service Recovery Performance. 2018. <i>Marketing Intelligence &amp; Planning</i> 36(1): 108-123.	Article	SEM		Vietnam

51	Ugaddan, Reginald G., and Sung Min Park. Do Trustful Leadership, Organizational Justice, and Motivation Influence Whistle-Blowing Intention? Evidence From Federal Employees. 2019. <i>Public Personnel Management</i> 48(1): 56-81.	Article	SEM		U.S.
52	van Loon, Nina, Anne Mette Kjeldsen, Lotte Bøgh Andersen, Wouter Vandenabeele, and Peter Leisink. 2018. Only When the Societal Impact Potential Is High? A Panel Study of the Relationship Between Public Service Motivation and Perceived Performance. <i>Review of Public Personnel Administration</i> , 38(2), 139-166.	Article	OLS & Panel fixed effects	2010 & 2012	Netherlands
53	Wright, Bradley E., Shahidul Hassan, and Robert K. Christensen. 201. Job Choice and Performance: Revisiting Core Assumptions about Public Service Motivation. <i>International Public Management Journal</i> , 20(1), 108-131.	Article	OLS	2012	U.S.

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**Appendix 2.**

**Table A2. Funnel asymmetry and precision tests FAT1, FAT-PET, FAT-MRA, and PEESE.**

	Job Satisfaction FAT1 FAT-PET FAT-MRA PEESE	Individual Performance FAT1	Turnover Intent FAT1	Organizational Commitment FAT1	Organization Cit. Behavior FAT1 FAT-PET PEESE
Precision (1/SE)	0.0476 (0.0180) [.011]	0.0347 (0.0137) [.014]	-0.0250 (0.0211) [.250]	0.3088 (0.0444) [<.000]	0.1774 (0.1034) [.097]
Constant	1.4182 (0.5559) [.014]	0.3000 (0.5890) [.613]	0.1187 (0.5812) [.840]	-1.5050 (0.9154) [.113]	4.4023 (2.1553) [.051]
Observations	51	54	24	26	30
R-squared Adj	0.1068	0.0929	0.0169	0.6544	0.0627
F	6.98 [.011]	6.43 [.014]	1.40 [.250]	48.34 [<.000]	2.94 [.097]
Precision (1/SE)	0.0456 (0.0264) [.084]				0.1774 (0.1299) [.194]
Constant	1.7402 (0.6694) [.009]				4.4023 (3.3541) [.329]
Observations	51				30
Wald chi <sup>2</sup>	2.98				(R2) 0.0951
Prob > chi <sup>2</sup>	[.084]				F (1.86) [.194]
1/SE	0.0014 (0.0012) [.243]				
Impact Factor	-0.0292 (0.0234) [.212]				
Logistic	-0.0299 (0.0742) [.687]				
SEM	-0.0190 (0.0419) [.649]				

Composite	-0.0873 (0.0398) [.028]	
Corruption	0.0035 (0.0014) [.011]	
Common Law	-0.0322 (0.0296) [.210]	
Constant	0.4590 (.1234) [<.000]	
Wald chi <sup>2</sup>	10.50	
Prob > chi <sup>2</sup>	[.162]	
Precision (1/SE)	0.0702 (0.0137) [<.000]	0.2629 (0.0683) [.001]
SE	10.5092 (5.2949) [.053]	41.1945 (18.5692) [.035]
Observations	51	30
R-squared	0.4619	0.5167
F	22.89 [<.000]	25.03*** [<.000]

Note: Standard errors in parenthesis. *p*-values in brackets

### **Appendix 3.**

#### *Robustness Checks*

We conducted several robustness checks on the results presented above. For all models, we estimated a sample that included estimations, in which several single dimensions were entered as independent variables in the model. In response to a referee's suggestion, we also averaged the values obtained for all of the dimensions included. This enabled us to consider 20 new estimations from several studies (seven from Job Satisfaction; five from Individual Performance; seven from Organizational Commitment; one from Turnover Intention), including eight studies that were not incorporated into earlier estimations. In the area of Job Satisfaction, the results changed in minor ways, affecting *Logistics* (the change was from non-significant to significant -  $p < .05$ ) and *Corruption* (the change was from significant  $p < .05$  to non-significant). All other relevant estimations yielded almost identical results (results available upon request).

We also conducted robustness checks on more specific issues. *SampleSize* was included in our modelling because it is significant in most estimations and excluding it would decrease their robustness. However, there will be some correlation between *SampleSize* and  $r$  because one is used to calculate the other, although it is worth noting that it is not a simple direct correlation. In any case, because of that, we run the estimations again without the variable *SampleSize*, and all results obtained were the same, with the exception of SEM becoming not significant in both estimations for Turnover Intent, and *Logistic* becoming weakly significant (positive,  $p < 0.10$ ) in the GEE estimation for OCB.

Taking into account the concerns about heterogeneity linked to the way in which Alonso and Lewis (2001) measured PSM, we controlled our estimations of Individual Performance in accordance with Alonso and Lewis's observation. The new results were identical (and the

control *Alonso&Lewis* was not significant). We also accounted for the fact that Alonso and Lewis (2001) and Naff and Crum (1999) used the same database; our results were almost identical when this fact was controlled for; the only change was Logistic (significant  $p < .01$  from significant  $p < .05$ ), and the control *Alonso/Lewis&Naff/Crum* was not significant. Finally, we noted that a large proportion of the OCB estimations originated from various studies by the same author, Caillier. When this factor was controlled for, we obtained almost identical results: the only slight change was that *SampleSize* was found significant  $p < .01$  from  $p < .05$ . The control *Caillier* was not significant. All these robustness check estimations are available on request.