



The Benefits of PSM: An Oasis or a Mirage?

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Abstract

Scholarly interest in Public Service Motivation has yielded a vast amount of research explicating its benefits for public sector organizations; including increased employee job satisfaction, boosted individual performance, higher intention to stay with the organization, enhanced organizational commitment and organizational citizenship behaviour. However, a closer inspection of the literature reveals mixed empirical evidence for each of these impacts of PSM. We perform a meta-analysis on each of these five impacts of PSM in order to explicate the divergence in the results of the extant literature. We find evidence of the existence of a true effect for PSM over negative outcomes, organisational commitment and organisational citizenship. In addition, we also find that contextual variables, legal origin and corruption of the country, along with the measurement related variables, affect each of the five relationships in a unique manner.

Introduction

In their original conceptualization of PSM, Perry and Wise (1990) suggested a number of behavioral benefits yielded by this distinct form of motivation. Later this list of positive individual outcomes was augmented to include benefits to the organization as well.

Consequently, researchers have delved deep to empirically elucidate the organizational and individual impacts of PSM in the organizational context including job satisfaction, individual and organizational performance, organizational commitment, organization citizenship behaviour and ethical behaviour (Perry 2014). However, despite the growth of the research on PSM, scholars have noted the enduring discrepancies and “inconsistent findings in the most frequently analysed relationships” (Ritz, Brewer, and Neumann 2016, 422) and have strongly recommended the use of quantitative meta-analysis to reconcile these inconsistencies. We heed this call for the need to reconcile the variance in results using quantitative meta-analysis method. We are cognizant of the presence of the existing meta-analyses on impacts of public service motivation on various outcomes (see for example Warren and Chen 2013; Homberg, McCarthy, and Tabvuma 2015; Harari et al. 2017) and we use their insights and build upon them to further add nuance to the theory of PSM.

Over the years, Public Service Motivation (PSM) has carved out a firm place for itself in the public management arena. Research on PSM has grown dramatically and has become increasingly international, multi-sectored and multidisciplinary (Ritz, Brewer, and Neumann 2016) providing rich insights into PSM and its relationships with a variety of constructs. As research on PSM has matured, its the empirical testing has become increasingly more heterogeneous in terms of the measurement method, the country of origin of the data, as well as the statistical methods employed. Recently, scholars have advised on the importance of delving into the contextual factors while looking at the impacts of PSM (van Loon 2017) as

few studies so far have accounted for them (see for example Vandenabeele and Van de Walle 2008). This study attempts to shed light on these contextual factors and measurement related choices made by researchers in the empirical studies and see if some part of the variance in the results is attributable to them. We believe that lending consideration to a wider range of contextual factors may yield interesting insights about the factors influencing PSM's impact on various outcomes.

In our meta-analysis we include five key outcome variables frequently associated with PSM, namely job satisfaction, individual performance, turnover, burnout, organizational commitment and organization citizenship behavior. Considering the importance of each of these outcomes in the organizational setting, it is worthwhile to ascertain the contingencies on which the strength of the relationship of each outcome stands. We concur with Harari et al. (2017, 81) that "PSM's impact on organizational variables is indeed nuanced" and so we make an attempt to understand it further by incorporating moderators that have not been used in prior meta-analysis.

We consider the salience of two types of factors in the existing studies and how they strengthen or weaken a given individual or organizational impact of PSM. Firstly, we assess the impact of measurement related choices made by the researchers and, secondly, we look at the contextual factors that may be accountable for bringing in some of the variations in the results of the studies. We note the presence of some studies documenting the cross-country differences in levels of PSM which they attribute to the differences in the institutional contexts of the countries (Vandenabeele and Van de Walle 2008). We offer further refinement to the public administration literature by looking at two separate country level attributes, namely the legal origins and the level of corruption in the country. We borrow these two well established constructs from the economics and finance literature and see how these have an impact on the strength of the outcomes of PSM. Legal origins theory has been

used extensively in the field of finance and economics to explain differences across countries in the quality of government, its impact on shaping the institutional environment, etc. (Botero et al. 2004; La Porta et al. 1999). Bearing in mind the impacts of institutions on individual attitudes (Houston 2011), we consider the impact of legal origins of the country on the relationship of PSM and its outcomes. The second contextual variable included in this study is the level of corruption in the country. Due to the salience of corruption for the attitudes and behaviors of public sector employees (Gould and Amaro-Reyes 1980) we explore its effects on the relationship between PSM and its outcomes.

Homberg, McCarthy, and Tabvuma (2015) do a commendable job by incorporating the publication status of the study, the measurement of PSM, the origin of the data and the opportunity to serve the public in the particular job as moderators in their meta-analysis of the relationship between PSM and job satisfaction. Similarly, Harari et al. (2017) account for the national context as the moderator for the relationship between PSM and various outcome variables. This study takes a step further and breaks-down the information regarding the country of origin into distinct constructs of legal origins and the level corruption in the country. By doing this we add further refinement to the meta-analysis of Homberg, McCarthy, and Tabvuma's (2015) which conceptualizes country differences as U.S. and non-U.S. based and that of Harari et al.(2017) which clusters countries into Anglo, Germanic Europe, Latin Europe and Confucian Asia clusters according to similarities in national cultures and traditions. Furthermore, we build on the correlational evidence provided by Harari et al. (2017) by performing regression analysis on the organizational and individual impacts of PSM, while incorporating a wider array of moderating variables to provide more robust evidence of these relationships. Whereas the correlational meta-analysis is an effective tool for a quantitative synthesis of research to establish a mean correlation, meta-regression

analysis goes beyond that to explore the heterogeneity in the results and help extend existing theory.

Overall, this research contributes to the existing literature by explicating whether the variation in results of existing research is artefactual and the consequence of measurement choices, or an effect of the environment in which the study was conducted. By using meta-analytic tools, we segregate the impact of measurement choices from the impact of contextual and environmental factors. We find that the measurement related choices made by the researchers as well as the contextual factors, corruption and legal origin of the country, influence the strength of the relationship of PSM with each of the outcome variables in a different way. We discuss these results and its implications in the later sections.

Public Service Motivation

The concept of PSM presents an alternative to the rational theories of motivation based on narrow self-interest (Moynihan and Pandey 2007b) and is instead built upon the altruistic base of doing good for others and benefitting society (Perry and Hondeghem 2008). From among the many definitions of PSM, we use the one presented by Rainey and Steinbauer (1999, 20) according to which PSM is “the general altruistic motivation to serve the interests of a community of people, a state, a nation or humankind”. It is broader than that originally presented by Perry and Wise (1990, 368) defining 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 employees of government institution, however individuals with higher levels of PSM are more likely to seek employment in the public sector (Christensen and Wright 2011; Vandenabeele 2008; Wright and Pandey 2008).

PSM recognizes and embraces the multiple basis of motivation and is composed of rational, normative and affective foundations. An individual’s attraction towards participating

in the policy making process presents the rational motivation, a sense of duty or obligation to contribute to society presents the normative motivation and the feelings of compassion and self-sacrifice present affective motivations to individuals. In their conceptualization of PSM Perry and Wise (1990) predicted it to yield a number benefits to the individual and the organization including increased individual performance and organizational commitment. This was followed by a flurry of research over the coming years which explored the impact of PSM, among other things, on job satisfaction, individual performance, reducing negative outcomes, organizational commitment and organization citizenship behavior. Despite the considerable amount of attention and research dedicated to these constructs, Ritz, Brewer, and Neumann (2016) note that there are still inconsistencies in the findings of these studies. We discuss the basis of the relationship of PSM with each of these outcome variables and the overall findings separately.

Job Satisfaction

Job satisfaction has been defined as the “pleasurable or positive emotional state resulting from the appraisal of one’s job or job experience” (Locke 1976, 1300). It is also seen by some as “the benefits that employees perceive they are receiving from their organization” (Moynihan and Pandey 2007a). PSM is seen by many as the desire to serve the public interest and the nature of public sector organizations makes them exceptionally positioned to provide opportunities to work in the public interest (Homborg, McCarthy, and Tabvuma 2015). Hence employment in the public sector provides individuals the opportunity to contribute towards society through their work, hence helping them “satisfy the individual need of wanting to help others” (Vandenabeele 2009) leading to increased levels of job satisfaction.

Job satisfaction has been touted to drive a number of positive outcomes including organization commitment, organization citizenship behaviour and even increased individual

performance (Homberg, McCarthy, and Tabvuma 2015). These significant benefits of job satisfaction accord much esteem to PSM, which itself is also deemed to directly influence the job satisfaction of individuals. Although a large part of the literature supports the direct positive relationship between job satisfaction and PSM there are also a number of studies which fail to find a significant relationship between the two variables. We recognize the meta-analysis by Homberg, McCarthy, and Tabvuma (2015) based on 28 studies which finds support for a positive relationship between PSM and job satisfaction, and also identifies some study characteristics that impact the relationship between PSM and job satisfaction. However, their review covers the time period from 1990 – 2013. A number of studies have been conducted since then studying this same relationship and again presenting some contradictory findings. For example, while Andersen and Kjeldsen (2013) report a significant direct relationship between PSM and job satisfaction using a sample of Danish public employees, Caillier (2015) uses structural equation modelling to analyse this relationship and finds no significant support for a direct relationship in a sample of U.S. public employees and instead demonstrates an indirect path through mission valence. The presence of more than 10 new studies and more than 40 new estimations since the last meta-analysis developed by Homberg, McCarthy, and Tabvuma (2015), in our view, validates a re-examination of this relationship with the inclusion of this new evidence.

Individual Performance

When Perry and Wise (1990) first introduced the construct of PSM, they proposed that its significance stems from, among other things, its ability to positively impact individual performance. As PSM is based on the desire to serve society, when individuals are presented with this opportunity to serve society through their work they find their work more meaningful leading them to perform better in their assigned tasks. This link has been

explored in literature and has received much support (Ritz, Brewer, and Neumann 2016). Warren and Chen (2013), the first researchers to perform a meta-analysis of the empirical evidence of this relationship, reported a significant positive effect of PSM on performance. The most recent study included in this meta-analysis was published in 2010, subsequent to which a number of studies have been undertaken regarding this same relationship, hence warranting a re-examination of this link given the new empirical evidence.

Earlier studies examining the link between PSM and performance relied on self-reported and subjective measures of performance. Later however, Anderson, Heinesen, and Pedersen (2014) presented stronger evidence of this relationship by establishing a link between teachers' PSM and student grades. However, not all evidence is unanimous in this regard and a few studies have failed to see any significant impact of PSM on individual performance. Jin, McDonald and Park (2018) did not find any support for a direct effect of PSM on individual performance, whereas Alonso and Lewis's (2001) results about this relationship were at best inconclusive. Using two separate large-scale data sets, each with two different measures of performance, the authors find support only in some of the estimations and conclude that "the links between PSM and performance were clearly not robust enough" (Alonso and Lewis 2001, 376). Petrovsky and Ritz (2014) also raise doubts about the robustness of the relationship between PSM and performance and blame common method bias for an artificial inflation of the true relationship.

Furthermore, some scholars have raised questions about the impact of context on the relationship between PSM and performance and showed that the context of work influences this relationship significantly (van Loon, 2017). We further explore the impact of other contextual factors to see if the variance in results across studies can be attributed to them.

Negative Outcomes

The benefits of PSM are not only restricted to an augmentation of attitudes and behaviors that are beneficial to the organization but also include curtailing or inhibiting attitudes or behaviours that may be harmful to organizational interests. Two such negative outcomes frequently encountered in PSM research are turnover intent and burnout. We consider the impact of PSM on curtailing negative outcomes turnover intent and burnout by aggregating the two together. Researchers have also begun an exploration of the “dark side” of PSM and Schott and Ritz (2018) present a framework to organize the literature on the negative consequences of PSM on the individual and the organization. However, as this stream is relatively new, we only include turnover intent and burnout, two outcomes that have relatively higher number of empirical studies needed for result aggregation. Turnover intent is particularly important for government organizations due to the human capital constraints faced by them (Moynihan and Pandey 2008). The extant literature on the relationship between PSM and burnout has theorized both, a positive and a negative relationship between the two variables. Van Loon et al. (2015) propose that high PSM individuals who see their jobs to have a high impact on society forego their self-interest and willingly over-expend their energies for the good of society, leading to employee burnout. On the other hand, Palma and Sepe (2017) claim that individuals with higher Public Service Motivation are less likely to burn out from emotional exhaustion as they are already more motivated to serve the public interest. The authors also empirically show that PSM is negatively related to burnout, that is, a higher presence of PSM leads to lower instances of burnout as these individuals are less impacted by the environmental stressors which lead to emotional exhaustion of public sector employees. However, Rayner, Reimers and Chao (2017) were unable to lend further support to these findings and detected no significant effect of PSM on burnout.

Moving on to turnover intent we see similar fractionalization of literature. Whereas Perry and Wise (1990, 371) predicted that individuals with high PSM are “highly motivated

to remain with their organizations”, researchers also suggest that employees with high PSM may be more likely to leave public sector organizations due to their inability to contribute to the public good within those organizations (Wright and Grant 2010). The empirical findings in this regard have also been mixed. Whereas some researchers (for example Campbell, Im, and Jeong 2014) find a significant negative impact of PSM on turnover intentions, others are more agnostic about the existence of a direct relationship between PSM and turnover intent (for example 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 linking the individual to the organization has important consequences for the organization as more committed individuals make a higher contribution to the organization (Aven, Parker, and McEvoy 1993). Perry and Wise (1990) predicted a positive effect of PSM on organization commitment of employees and hence indulge in behaviors beneficial to the organization.

When individuals with a higher motivation to serve the public see a match between their values and that of the organization they form an attachment with the organization (Kim 2012), i.e organization commitment. This attachment or commitment to the organization subsequently entails the willingness of the individual to contribute towards the well-being of the organization (Kim 2005). Whereas some scholars have found support for the relationship between PSM and increased organization commitment, there are others who believe either that this relationship is contingent on certain factors or that this relationship is only an indirect one. Taylor (2008) and Leisink and Steijn (2009) concur that PSM has a positive

impact on organization commitment, even when accounting for the fit of the individual with the organization. Despite the over-whelming support for this relationship, other researchers fail to find a significant direct relationship between PSM and organization commitment (see for example Itansa 2016; Potipiroon and Ford 2017). We consider the role of measurement and contextual variables in the variance in results.

Organization Citizenship Behaviour (OCB)

The theory of public service motivation is “principally based on altruistic motives that lie beyond self-interest” (Brewer and Selden 1998) therefore it precludes narrow self-interested behavior. This has led to assertions about a relationship of PSM with prosocial behaviour, which in the organizational setting has been equated with organization citizenship behaviour. Different types of citizenship behaviour like whistle-blowing, collaboration and working unpaid over-time are examples of citizenship behaviour within the organizational context which have been empirically tested within the organization. Most of the literature on the relationship between PSM and citizenship is united in establishing a positive relationship between PSM and citizenship behaviors, however there are still some studies that find no direct link between PSM and citizenship behavior, neither citizenship behavior directed towards other colleagues nor citizenship behavior directed towards the organization(see for example Potipiroon and Faerman 2016).

Overview of studies

We present an overview of the evidence found in the literature on each of these relationships in Table 1. It shows a break-down of the studies that find a significant positive relationship, find no significant relationship or find a significant negative relationship between PSM and each of our dependent variable. A glance at the table reveals that while there is a higher level

of convergence in the results of some relationships (for example PSM and organization commitment), there is more divergence in the results of other relationships (for example performance and job satisfaction).

-- Insert Table 1 about here --

Researchers have presented evidence of some contingencies, for example the societal impact of the job (van Loon et al. 2018), yet many others remain unexplored. In order to advance the literature on PSM, a reconciliation of current results, using the information provided in these studies is not only useful, but critical. The evidence for these studies on PSM has come from across continents and from different levels of government, and we believe that some of the inconsistencies in the extant literature may be reconciled by taking these differences into account. We attempt to explain some of the divergence in the results using the legal traditions and corruption literature. We were unable to use the level of government as an explanatory variable due to the insufficient data available.

Explaining contextual differences between PSM and Organisational Outcomes: Legal Origins and Corruption

Legal traditions around the world are widely seen to emerge from two distinct legal families, namely common law and civil law. Common law has its roots in the English law while civil law is mainly seen to be derived Roman law (Glaeser and Shleifer 2002). Civil law has further sub-traditions, namely the French, 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 at times imitation. Some of the differences between the different legal families, as seen by scholars, are quite stark. La Porta et al. (1999, 231–32) juxtapose the two and see the basis of the civil legal tradition in the

“intent to build institutions to further the power of the State” as compared to the common legal tradition with its basis on “the intent to limit rather than strengthen the State”.

A relevant development of the theory of legal origins is that presented by La Porta et al. (1997) primarily to explain the differences in access to financial capital and showed that the adoption of the legal tradition has an impact on 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 legal origins theory has been attributed to be helpful in explaining a number of cross country differences with respect to the quality of government, and structure of corporate ownership patterns, among others (Roe 2006; La Porta et al. 1999).

The theory of legal origins is also seen to influence the institutional evolution in countries (Botero et al. 2004). In the field of public management and administration a few multi-country studies have been conducted with the aim of looking at the difference in the levels of public service motivations across countries. Vandenabeele and Van de Walle (2008) noticed a difference in PSM levels across 38 countries, and suspected institutional reasons behind the difference, however refraining from specifying which ones. Similarly, Houston (2011, 769) looked at the impact of welfare regime on PSM and work motives and found that national context matters for PSM and that the “institutions used to deliver public services affect social attitudes”. Considering the role of institutions in shaping the behaviour of individuals (Bonin, Jones, and Putterman 1993; 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), we would like to see the moderating role of legal origins on the relationship between PSM and the various individual and organizational outcomes.

A classification of countries based on shared common administrative traditions has also been done in public administration. However, this classification is not exhaustive and

scholars believe that whereas some of these categories are well identified, others need further scholarly refinement (Painter and Peters 2010). The advanced state of research on legal origins theory, as well as the exhaustive list of countries categorized by it makes it more suitable for our analysis.

Legal origins is not the only contextual factor that may influence the relation between PSM and positive organisational outcomes. In this study, we also consider at the effect of the country levels of corruption. Corruption is commonly defined in literature as “the misuse of public office for private gain” (Treisman 2000, 399). Corruption in the government has wide-ranging impacts such as distortions in the spending allocation between projects (Mauro 1998), lower financial investment in those economies (Gould and Amaro-Reyes 1980) and it leads to lower economic growth (Mauro 1995). These detrimental effects of corrupt practices outweigh the benefits associated with corrupt practices proposed earlier, such as raising the speed of services and more effort on part of government employees in order to receive higher bribes. Besides these more obvious impacts of corruption on the economy, corruption also has undesirable impacts within the government institutions. Corruption within the organization generates an environment of inefficiency in the organization and “contributes to frustration on the part of otherwise professionally competent and honest civil service” (Gould and Amaro-Reyes 1980, 33). Furthermore, Gould and Amaro-Reyes (1980) hold corruption responsible for a feeling of distrust within all levels of the bureaucracy and along with a reduction in the administrative efficiency of the organization. This makes corruption, or rather the civil servant’ perception of corruption in the government, a variable of interest while studying individual and organizational outcomes in public organizations (Lederman, Loayza, and Soares 2005).

However, one of the complication in the empirical analysis of corruption is the lack of observable indicators (Lederman, Loayza, and Soares 2005). Hence subjective measures of

perceived corruption are often used for such analyses. We use the Corruption Perception Index (CPI) published by Transparency International. The CPI scores are based on data gathered from 13 different organizations and is a composite of subjective evaluations of business executives and experts regarding a variety of corrupt practices in the public sector as well as the preventative mechanisms in place to control corruption. In their analysis of different perceptual measures of corruption used in the literature, Judge, McNatt and Xu (2011) note a higher reliability and validity of the CPI measure and recommend its use to future researchers.

Methodology

We conduct a meta-analysis in order to study the impacts on PSM on various individual and organizational outcomes within organizations. Meta-analysis is the “empirical analyses that attempts to integrate and explain the literature about some specific important parameter” (Stanley and Jarrell 1989, 163). It is used in instances where there exists some divergence in the results of existing studies, and then attempts to integrate and reconcile these results, and in the process look for variables that may moderate the relationship (Geyskens et al. 2009). Meta regression analysis presents a systematic and objective manner of making judgements and attaching weights to empirical results of different magnitudes, having different sample sizes, belonging from different countries and having different level of significance (Roberts 2005). Hence, meta-regressions are generally more objective than the traditional qualitative review of literature (Stanley 2001).

As this process utilizes existing quantitative studies generally using regression analysis, it is also sometime referred to as a regression analysis of regression analyses (Stanley and Jarrell 1989). Although the technique is used extensively in disciplines such as economics (Bel, Fageda, and Warner 2010), it is a relatively new method in public

administration. Another benefit of the meta-regression analysis is the ability to add moderating variables to the analysis which do not exist in the original studies. This technique allows researchers to collect data about certain contextual and specification characteristics of each study and then analyze their role in introducing variance in the results.

Sampling criteria

Although PSM is primarily grounded in the public sector studies, scholars outside the field of public administration and management such as those in economics, education, management, political science, public policy and sociology have taken notice and have incorporated it in their research (Ritz, Brewer, and Neumann 2016). Keeping in mind the wide variety of journals that have published articles regarding PSM, we decided to use a different approach for compiling our database of PSM articles. We utilize what we believe to be the most accurate record of studies using PSM, i.e. the online data base maintained by one of the originators of PSM theory, professor James Perry, which includes not only published but also unpublished articles and thesis. Using the database maintained by professor Perry, the co-originator of the term PSM, gives us an advantage as it includes studies not only from the field of public administration and management, but also from other disciplines.

The online database was accessed in November 2017 and in the first step a single reviewer read the abstracts of all research items listed. In this stage all research looking at the impacts of PSM on any individual or organizational factor was noted yielding a total of 135 scholarly works including published and unpublished research. With the intent of being more inclusive, no minimum criteria for selection of journals was set, and all scholarly journals were considered for inclusion. Additionally, a supplementary search was also run on online repositories specializing in PhDs and master theses including E-Theses Online (ETHOS), DART Europe, Open Access Theses and Dissertations (OATD), and European Science

Research Council. We used as key words for the search “Public Service Motivation” and “PSM”. The search was finally completed on June 2018. We carefully followed the MAER reporting guidelines from Stanley et al. (2013).

Articles which used constructs which were similar to Public Service Motivation (for example work motivation in the public sector or prosocial motivation) were excluded, as a basic requirement for conducting a meta-regression is the homogeneity of the dependent variable (Bel and Warner, 2016). Next, different outcome variable used by researchers were grouped together in order to arrive at 5 distinct category of outcome variables which had garnered a substantial amount of research attention, namely job satisfaction, individual performance, negative outcomes, organizational commitment and organization citizenship behaviour. This yielded a total of 82 published and unpublished studies whose data were subsequently coded into an excel sheet. The coding scheme was discussed and finalized between all three researchers at multiple instances and the final coding was performed by a single researcher. Those studies that presented difficulties in coding were again discussed and resolved by consultations between the three researchers.

Although leading scholars recommend that all empirical research utilizing regression analysis should include the standard errors and actual p-values with each coefficient (Meyer, van Witteloostuijn, and Beugelsdijk 2017), these guidelines are not followed by all researchers. In the coding process we found a number of studies which neither reported the standard errors nor the t-values for the coefficient, which is required for conducting the meta-regression analysis. In that case we use some further techniques in order retain the maximum number of studies and estimations. Using a p-value estimator and with the given degrees of freedom and the p-value disclosed in the study, we estimate the t-statistic for each of the estimations where it was not disclosed. Regrettably, all such articles which neither reported the exact p-value, nor the standard error or t-value had to be removed from further analysis

due to the lack of this critical information. The studies where the sample respondents included private or non-profit sector workers were also excluded. After this step our sample included 47 articles estimating the impact of PSM on at least one of our five outcome variables of interest. The last screening criterion applied was the removal of studies that included multiple measures (dimensions) of PSM in the same regression equation. As these yielded multiple coefficients from the same estimation it violates the principal of independence of estimations, and hence these estimations were also excluded from the final sample, bringing the total sample size to 42 studies.

Method of Analysis

Our meta-regression analysis has two objectives. First, we would like to observe the impact of the model specification in the studies and explore whether part of the divergence in results can be attributed to them. We consider a number of variables namely the sample size of the study (*SampleSize*), the impact factor of the journal (*ImpactFactor*), the use of logistic regression (*LogisticReg*) and whether only one-dimensional measure of PSM was used or a composite measure of multiple dimensions (*CompositeMeasure*). Whereas the variables *SampleSize* and *ImpactFactor* are continuous variables, *LogisticReg* and *CompositeMeasure* are dummy variables. We initially wanted to include other variables, such as the government level of the organization (federal organization, state level or municipal level) where the data was collected, and the type of work performed by the employee, but we found inadequate information reported on these variables in the studies.

The second objective is to discern the impact of two other study characteristics that we believe may be pertinent for our relationships of interest. We have introduced these variables in the earlier sections, the legal origin of the country where the data was collected and the perceived level of corruption in the country. As the French, German, Socialist and

Scandinavian legal origin are sub-traditions all hailing from civil law, we use the two broad legal families of common law and civil law for reasons of parsimony, an approach also favoured by earlier researchers (for example La Porta, Lopez-de-Silanes, and Shleifer 1999). We use a dummy variable for *CommonLaw* where the value of 1 connotes a common law legal origin and 0 connotes a civil law legal origin.

The second study characteristic that we consider is the perceived level of corruption in the country. In line with the recommendation of Judge, McNatt and Xu (2011), who look at the suitability of various indices for corruption used in the literature, we use the Corruption Perception Index (CPI) published by an Transparency International. Each country is scored on a scale ranging between 0 and 100 where a higher score signifies a lower level of perceived corruption in the country.

A list of all the studies included in the meta-regression is presented in Appendix 1. One of the critical decisions faced by the researchers in a meta-regression is the choice of metric to be used in the analysis (Geyskens et al. 2009). Stanley and Jarrell (1989) warn about the non-comparability of the regression coefficients across studies due to differences in units of measurement and instead recommend the usage of the t-statistic as it is a standardized measure and we follow this advice in our analysis.

Our final sample has a total of 162 estimations with 41, 41, 28, 25 and 20 estimations for job satisfaction, individual performance, negative outcomes, organizational commitment and organization citizenship behaviour respectively.

We estimate the following equation for the impact of the moderator variables on the relationship between PSM and job satisfaction:

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

The t_i is the t-value of the coefficient of PSM reported for each estimation. We test for multicollinearity and a mean value of 1.50, which is very low, was obtained for the Variance Inflation Factor (VIF). Next, we estimate a similar equation for the impact of these moderators on the relationship between PSM and individual performance. Here, as all the estimations rely on a composite measure of PSM, the variable *CompositeMeasure* was dropped from the equation. The resulting equation was:

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

The test for multicollinearity showed a VIF of 1.64 which is also very low. To look at the impact of moderating factors on the relationship between PSM and negative outcomes, we first homogenized the signs such that a higher coefficient depicts a decrease in negative behaviour and then we estimated the following equation:

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

Next, we regress the moderators on the relationship between PSM and organizational commitment excluding the variable *LogisticReg* as there are no studies employing that approach. However, we are confronted with a somehow high VIF (mean VIF 4.63, signalling high multicollinearity between the variables (6.03 for *CommonLaw*), and so a decision was made to exclude the variable *CommonLaw* from this regression. The regression equation finally estimated for the effect of moderators on the relationship between PSM and organization commitment is hence:

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

After the elimination *CommonLaw* the VIF was reduced to an average of 2.22. The last equation we estimate is for the impact of moderators on the relationship between PSM and organization citizenship. Since all estimations in this analysis use a composite measure, the variable *CompositeMeasure* is excluded from the regression. The resultant equation again had an unacceptable high VIF (109.73) and so once again we exclude the variable *CommonLaw* (individual VIF 264.71) for the resultant equation:

$$t_i = \alpha_0 + \alpha_1 \text{SampleSize}_i + \alpha_2 \text{ImpactFactor}_i + \alpha_3 \text{LogisticRegression}_i + \alpha_4 \text{Corruption}_i + \varepsilon_i$$

The exclusion of the variable *CommonLaw* reduced the average VIF to 2.64. These values indicate that we can now meaningfully interpret the results of these regressions.

Results

The meta-regression analysis was conducted with Ordinary Least Squares (OLS) in Stata 12. Before conducting the main analysis all our meta-regression models were tested for heteroscedasticity. The results showed that heteroscedasticity does not pose a threat in our data, for any of the models. Nonetheless, OLS robust estimation results are offered as way of check. Nelson and Kennedy (2009) warn against the problem of autocorrelation presented in many meta-analytic studies and also discuss the root cause of this problem. The presence of multiple estimations from a single study, use of common data sets and multiple studies by the same group of researchers are some of these problems that we are also faced with in our study. To address the issue of auto-correlation within the estimations belonging to the same

study we follow the advice of Ringquist (2013) and use Generalized Estimating Equations (GEE) which clusters together the estimations belonging to the same study. As we conduct five distinct meta-regressions, we discuss the results of each of them in turn.

Job Satisfaction

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

-- Insert Table 2 about here --

Using the GEE we estimate a random effects model for the meta-regression and it can be noted that the results for the estimates change only slightly with the more robust GEE method (as a way of checking we run GLS estimations for all models, with very similar results to those with GEE. These are available upon request). The results for the meta-regression show that the only model specification variable that has a significant impact on the relationship between PSM and job satisfaction is *SampleSize* ($p < 0.05$), where a bigger sample size studies detect a stronger positive relationship. The other moderating variable that is significant is *Corruption* ($p < 0.01$). To analyse the results, we need to keep in mind that the index used to measure perceived corruption, CPI, is measured such that a higher score signifies lower perceived corruption and a lower score signifies higher perceived corruption. Hence the negative moderation denotes a stronger link between PSM and job satisfaction when a higher amount of corruption is perceived in the country. We discuss the significance of this relationship in detail in our discussion section.

Individual Performance

Since all the estimations use a composite measure of PSM, the dummy *CompositeMeasure* was excluded from the equation. The resulting meta-regression was estimated using the GEE and the GLS showed also produced the same results. We present the results of the Table 3.

-- *Insert Table 3 about here* --

SampleSize is once again a significant moderator ($p < 0.01$), however, it is interesting to note that this time sample size is negatively moderating the impact of PSM on individual performance. Another specification characteristic also found significant ($p < 0.10$) is *Logistic*, where logistic regression method employed increases the strength of the relationship. We explore this further in the discussion section. The study characteristics perceived corruption and the civil law legal origin also moderate the impact of PSM on individual performance ($p < 0.10$ and $p < 0.01$ respectively). A positive coefficient for perceived corruption indicates that lower perceived corruption strengthens the relationship between PSM and individual performance, and higher perceived corruption weakens this relationship. Also, common law legal tradition is found to lower the strength of this relationship.

Negative Outcomes

This category is an amalgamation of two outcome variables found in the literature, namely intentions to leave the company and burnout. For purposes of consistency the signs for burnout were inverted before conducting the meta-regression. Although the number of estimations included here seem low, Hedges, Tipton and Johnson (2010) provide evidence that meta-regression analysis with 20 – 40 estimations provide robust confidence intervals for the coefficients. Additionally, previous meta-regression studies in public administration and management have also used a similar number of estimations for their analysis (see for example Homberg, McCarthy, and Tabvuma 2015).

-- Insert Table 4 about here --

The relationship between PSM and negative outcomes is generally an inverse relationship. The results of our meta-regression show that the strength of this relationship diminishes in common law countries and is stronger in civil law countries ($p < 0.01$). It is also worth noting that published articles in higher impact factor journals are also likely to evidence for a weaker relationship ($p < 0.05$). This indicates that those studies that are unpublished or were published in lower impact factor journals and went through a less rigorous review process portray the relationship to be stronger. Lastly, using a composite measure of PSM also increases the chances of detecting this relationship ($p < 0.05$).

Organization Commitment

In our sample none of the estimations employed the logistic regression method so the dummy variable *LogisticReg* was excluded. A preliminary meta-regression had an excessively high VIF. This problem was resolved by the exclusion of the variable *CommonLaw*. The resulting equation was run using GEE and again the results were more or less similar to the OLS.

-- Insert Table 5 about here --

The perceived corruption in the country impacts the relationship ($p < 0.05$) such that a lower perception of corruption increases the impact of PSM on an individual's commitment towards the organization. This relationship is also found to be stronger in studies which rely upon a composite measure ($p < 0.10$) as opposed to uni-dimensional measure of PSM.

Organization Citizenship Behavior

Our sample for testing the relationship between PSM and organization citizenship behavior is again relatively small. However, we again reiterate the acceptability of this small sample to its robustness shown by Hedges, Tipton and Johnson (2010). Since all the estimations were using a composite measure of PSM the dummy variable *CompositeMeasure* was excluded. The meta-regression was performed, however, it showed an unacceptably high VIF, and so the variable with the highest VIF, *CommonLaw* was subsequently excluded from the equation. The resulting meta-regression was then used and produced acceptable VIFs (mean VIF is 2,64 and the single highest VIF is 3.48). The results were once again similar for the robust GEE and the OLS method. The only significant moderator of the relationship between PSM and an individual's citizenship behaviour in the organization is the sample size ($p < 0.01$). Studies with larger sample sizes detect a stronger relationship between PSM and organization citizenship behavior.

-- Insert Table 6 about here --

Publication Bias

Publication bias may be a relevant limitation of meta-regression analysis, because of the possibility that studies finding significant relationships between variables could be more likely to be published (Stanley 2005). Funnel asymmetry tests – FAT- may be used to examine 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. Table 7 displays the result we obtained for FAT tests for each of our estimations; we report results both in terms of precision of the study (FAT 1) and of sample size (FAT 2) [using $1/SE$ and $\sqrt{\text{sample size}}$, respectively]. What matters regarding publication bias is whether the intercept is significantly different from zero. In this regard we find no indication of publication bias for Job Satisfaction, for which both FAT (1) and FAT (2) intercepts do not differ significantly

from zero. We find weak indication of publication bias for the four other estimations, as the intercept is significant in one of the FAT tests.

-- Insert Table 7 about here --

We can filter publication bias by estimating a multivariate FAT meta-regression model (Stanley 2005), which we do following methodological guidelines in Bel, Fageda, and Warner (2010). We re-estimate the corresponding equations replacing sample size with inverse standard errors $-1/SE-$ (for Organizational Commitment) or with square root of sample size $-SQR-$ (for Individual Performance, Negative Outcomes, and Organization Citizenship). All our previous results are confirmed, and all other results from our original equations are robust.

Furthermore, we use meta-significance tests (MTS) to analyze the presence of a genuine empirical effect – regardless of the ‘publication bias’. MTS test is based on the ability of the statistical power to give evidence of a genuine empirical effect based on the relation between the t-value and the degrees of freedom. The MTS results shown in Table 7 do show a significant positive true effect of PSM over negative outcomes, organizational commitment and organizational. Interestingly, there does not seem to be a true effect of PSM over job satisfaction, and neither for individual performance.

Discussion

Is PSM a desirable feature in the workplace? The answer is yes, although there are certain substantive caveats that apply. First of all, the analysis of existing empirical evidence reveals that PSM has a genuine effect over organisational commitment and organisational citizenship, although it also shows how it is related to higher negative outcomes. Hence, while it has some positive effects, it is also related with higher levels burnout and turnover intentions. PSM could act then as a double-edged sword; while high levels of PSM will

ensure greater commitment towards the organisation and more behaviours in favour of helping its members, it could cause frustration among employees delivering public services.

In addition, our results show that perceived corruption moderates the impact of PSM on three of our outcome variables: job satisfaction, individual performance and organization commitment. At first glance, the moderating impact of perceived corruption on the relationship between PSM and job satisfaction seems counter-intuitive. The coefficient for the moderating variable is negative, implying that a lower level of corruption perceived to be prevalent lowers the strength of the relationship and a higher level of perceived corruption strengthens the relationship. To understand this relationship, it is important to consider the other factors that influence job satisfaction. Whereas PSM is one of the factors influencing job satisfaction, other contextual factors like the organization culture (Lok and Crawford 2001) and trust in other colleagues and management (Gould-Williams and Gatenby 2010) are also important antecedents of employee job satisfaction. The pervasiveness of corruption within organizations creates a general feeling of distrust within the levels of the bureaucracy (Gould and Amaro-Reyes 1980). The results of our meta-regression point to the increased importance of PSM for influencing the job satisfaction of employees in such an environment where other contextual factors important to garner employee job satisfaction may be absent. So, in more corrupt countries, a higher level of public service motivation is required for employees to be satisfied with their jobs. Conversely, in countries where there is lower corruption, the role played by PSM in influencing employee job satisfaction is reduced due to the prevalence of other positive factors.

On the other hand, when we look at the relationship of PSM with individual performance and with organization commitment, we see a positive moderating role of perceived corruption, denoting a stronger relationship between the variables when there is CPI score is high (signifying lower corruption). This result is much more intuitive,

considering the impact of corruption within organizations. Some researchers (for example van Loon 2017) have already highlighted the importance of contextual factors when looking at the impact of PSM on individual performance. The meta-regression results also correspond with this assertion and show that an environment of high perceived corruption can weaken the link between PSM and performance. A possible explanation for this could be the link between corruption and administrative inefficiency (Gould and Amaro-Reyes 1980), however, we feel that the reasons behind this need to be explored further. Similarly, lower perceived corruption also strengthens the link between PSM and organizational commitment. As the prevalence of corruption has been linked to inefficient resource allocation decisions (Mauro 1998), lower perceived corruption may signal an efficient use of state resources for the benefit of society. Thus, employees may perceive a higher alignment of individual and organizational values, which forms the basis of an individual's commitment to the organization (Kim 2012).

The other contextual factor that moderates the impact of PSM on outcomes in the organization is the legal origin. Legal origin theory stipulates that the two main types of legal origins, common law and civil law, are not only distinct in the way that they are moulded, but also in their impact on the institutional environment in the country (Botero et al. 2004). The underlying purpose served by institutions impacts the way these institutions function. Whereas the common law tradition mirrors “the intent to build institutions to further the power of the State” the civil law tradition mirrors “the intent to limit rather than strengthen the State” (La Porta et al. 1999, 231–32). Consequently, the role of the government in a common law tradition is seen to be providing market support and dispute resolution function, whereas in the civil law tradition the government is seen as the policy implementers (Damaška 1986). Presumably the way the role of the government and institutions is perceived within society also has an impact within the institution as well. Our results show that within

our sample studies the countries with the civil law tradition have a stronger relationship between PSM and individual performance, whereas the strength of the relationship is diminished in common law countries. Furthermore, the role of PSM in reducing negative attitudes like burnout and turnover intent is also diminished in common law countries and is significantly stronger in countries with a civil law legal tradition. This is a notable result, which indicates that the positive impacts of PSM are stronger in countries whose legal codes are based on the civil law traditions. A bulk of literature in economics and finance presents the positive impacts of a common law legal origin on various outcomes like the attraction of financial capital, stability of the financial markets, etc. (Botero et al. 2004; La Porta, Lopez-Silanes, and Shleifer 2008; La Porta et al. 1999). Our results point that it is countries with a civil law legal origin that actually reap the benefits of PSM on individual performance and on reducing negative employee attitudes.

Some of the characteristics of the study like sample size and the impact factor also had a significant impact on the relationship of PSM with some of the outcome variables. The results show that large samples are more likely to be able to detect the relationship of PSM with job satisfaction and with organization citizenship. However, the opposite is true for individual performance, and larger sample studies are in fact less likely to detect a relationship between PSM and individual performance. Here we also note that the impact of sample size on each of these relationships is very small, as indicated by the size of the coefficients. Albeit the statistical significance of sample size, one should question its relevance given these extremely small coefficients (Combs 2010).

Another interesting insight that has emerged pertains to the measurement method used across the different studies. For parsimony we only distinguished between multi-dimensional measure using two or more dimensions and uni-dimensional measures using any one of the four dimensions. Kim and Vandenberg (2010, 706) note that PSM is a formative construct

and that all four dimensions need to be retained as even “dropping one dimension may alter the meaning of PSM”. Wright (2008) also mentions the importance of equivalence of measurement for the comparability of results. However, our results indicate that other than the relationship of PSM with organizational commitment and with negative outcomes, using a multi-dimensional measure as compared to a uni-dimensional one did not have a significant impact on the findings. This result partially supports that of Harari et al. (2017), who support the “equivalence of different measurement methods” and deem it appropriate to compare the results of studies using multi-dimensional and uni-dimensional measures.

Limitations

Although we have tried to conduct this review with the utmost rigour, we acknowledge that our research does have some limitations. Despite the fact that meta-regression analysis is more objective and requires fewer judgement calls as compared to narrative reviews (Stanley 2001), there is still some element of subjectivity involved along the way. First, we have relied primarily on the online PSM database maintained by Professor James Perry to select research for our analysis. This database is very comprehensive and includes published and unpublished research not only from public management but also from other disciplines like human resource management. Although we have supplemented list with searches on other online portals, we acknowledge that there may be studies that may have been left out by error.

Second, despite our attempt to include all relevant studies on PSM in our review, a number of studies did not have all the relevant information for inclusion in our quantitative analysis. For this reason, our results and analysis are unable to consider the estimations from these studies. Third, since the meta-regression analysis requires a degree of uniformity in the measurement of the independent variable, we were unable to include studies which used

similar but different motivational construct (e.g. Prosocial motivation or public service-oriented motivation). This led to the exclusion of some studies that otherwise had interesting insights into the relationship of PSM with our dependent variables. Lastly, the adherence to standardized guidelines for conducting meta-analyses decreases the risk posed from subjectivity (Aytug et al. 2012), and so we have adhered to the MAER reporting guidelines while conducting our study.

Conclusions

Recently Perry (2014, 38) conceived a third wave of PSM research, which “involves learning from past research and filling shortcomings and gaps” in the current research. Concurrently, scholars have pointed out that the Popperian principal of falsification requires not only the publication of null findings and negative results but also a synthesis of these results by means of meta-analyses (van Witteloostuijn 2016). Keeping these in mind, we have made an effort to delve into the existing PSM research, spanning more than two decades of scholarly work, in an attempt to reconcile the current literature and also highlight gaps which remain unexplored. We have shown that despite overall support for the individual benefits of employee PSM, there are variations in these findings which are brought on by measurement as well environmental causes. While we can say that there exists a relationship between PSM and beneficial outcomes in the organizational context, these benefits are concentrated or diluted depending on the level of corruption and the legal origins of the country. We find that the role of PSM in enhancing the job satisfaction of individuals employed in the public sector is even greater in corrupt countries, as compared to countries that rank lower in corruption. This finding is valuable for practitioners in countries faced with a higher risk of corruption as it signifies that managers in such countries need to invest more in strategies to nurture PSM in order to boost the job satisfaction of their workforce. We have also found that lower

perceived corruption strengthens the impact of PSM on individual performance and organizational commitment. This indicates that the prevalence of corruption not only has a directly impact on the organization (via the mechanisms outlined earlier), but also has indirect effects via reduced individual performance and organizational commitment. Furthermore, our findings also show that countries with civil law traditions reap more benefits of PSM in terms of increased individual performance and reducing burnout and turnover intentions as compared to countries with common law legal traditions.

We would like to acknowledge that although we have introduced some moderators into our meta-regression analysis, we were unable to include others due to a lack of information. However, we see much value in considering other contextual factors like the level of government (for example municipal, local or federal level) in which the respondents are employed to observe whether that has an impact on the effects of PSM on the variables that we discuss. Furthermore, we believe that the types of service provided by the government organization and its role as a moderator for PSM's impact on organizational and individual outcomes is also worthy of research attention for future studies.

Our analysis has shown that each of the individual and organizational benefits of PSM can be reaped in certain environmental settings. The exact mechanisms through which these environmental factors (perceived corruption and the legal origin) impact the relationship of PSM with the outcome variables is still unclear, however, we hope that future scholars will delve deeper in order to elucidate upon this further. Despite the widespread research on perceived corruption and legal origin theory in economic literature, they have mostly been ignored in public management research. Kelman (2007) points out the isolation of public administration from mainstream organization studies and economic research, which has been also shown in more recent assessments of the public administration field (see Andrews and Esteve 2015). We believe a greater effort to incorporate wider concepts from these fields may

play a role not only advancing public administration scholarship but also bridging them together.

Table1. Synthesis of the main results in studies about PSM and the dependent variables

	Estimations		Studies	
<i>Job Satisfaction</i>				
Positive significant	34	58%	18	64%
Not significant	25	42%	10	36%
Negative significant	0	0%	0	0%
<i>Total</i>	59	100%	28	100%
<i>Individual Performance</i>				
Positive significant	34	49%	12	67%
Not significant	30	43%	5	28%
Negative significant	6	9%	1	6%
<i>Total</i>	70	100%	18	100%
<i>Negative Outcomes</i>				
Positive significant	8	22%	2	14%
Not significant	17	46%	8	57%
Negative significant	12	32%	4	29%
<i>Total</i>	37	100%	14	100%
<i>Org Commitment</i>				
Positive significant	35	70%	16	80%
Not significant	14	28%	4	20%
Negative significant	1	2%	0	0%
<i>Total</i>	50	100%	20	100%
<i>OCB</i>				
Positive significant	33	87%	13	87%
Not significant	5	13%	2	13%
Negative significant	0	0%	0	0%
<i>Total</i>	38	100%	15	100%

Table 2. Meta Regression estimates for Job Satisfaction

	OLS Robust	GEE
Sample size	0.0005* (0.0003)	0.0006** (0.0003)
Impact Factor	-0.2127 (0.4280)	-0.6081 (0.6312)
Logistic Regression	2.4510 (1.9646)	2.4631 (1.6112)
Composite Measure	-0.9895 (0.9336)	-1.5766 (1.1729)
Corruption	-0.0970*** (0.0257)	-0.1059*** (0.0383)
Common Law	0.2809 (0.8499)	-0.5466 (0.8680)
Constant	9.4790*** (2.4801)	11.4988*** (4.0361)
N	41	41
R ²	0.2689	
F	5.11	
Wald chi ²		37.17
Prob > chi ²		0.0000

Note: Standard errors in parenthesis. * $p \leq .10$ **; $p \leq .05$; and *** $p \leq .01$.

Table 3. Meta Regression estimates for Individual Performance

	OLS Robust	GEE
Sample size	-0.0002** (0.0001)	-0.00014*** (0.00004)
Impact Factor	-0.8159 (0.9265)	-0.1126 (0.6733)
Logistic Regression	3.1353** (1.4883)	3.0174* (1.6949)
Corruption	0.0878* (0.0446)	0.0705* (0.0398)
Common Law	-3.4673** (1.5314)	-2.8228*** (1.0637)
Constant	-1.8072 (4.3152)	-2.4589 (3.5767)
N	41	41
R ²	0.2845	
F	3.08	
Wald chi ²		781.83
Prob > chi ²		0.0000

Note: Standard errors in parenthesis. * $p \leq .10$ **; $p \leq .05$; and *** $p \leq .01$.

Table 4. Meta Regression estimates for Negative Outcomes

	OLS Robust	GEE
Sample size	-0.0002 (0.0002)	-0.0002 (0.0001)
Impact Factor	-4.7960** (2.0908)	-5.2290** (2.1259)
Logistic Regression	-1.1371 (1.6094)	-1.3199 (0.8440)
Composite Measure	-0.8130 (0.6210)	-0.9634** (0.4119)
Corruption	0.0217 (0.0555)	-0.0162 (0.0480)
Common Law	3.1721* (1.5957)	3.8459*** (0.8496)
Constant	0.3910 (2.2817)	0.5923 (1.6956)
N	28	28
R ²	0.3851	
F	4.88	
Wald chi ²		21302.95
Prob > chi ²		0.0000

Note: Standard errors in parenthesis. * $p \leq .10$ **; $p \leq .05$; and *** $p \leq .01$.

Table 5. Meta Regression estimates for Organizational Commitment

	OLS Robust	GEE
Sample size	-0.0011 (0.0015)	-0.0004 (0.0019)
Impact Factor	-2.2380 (1.4920)	-2.1387 (1.4651)
Composite Measure	5.5804 (3.2502)	4.8835* (2.9261)
Corruption	0.2314** (0.0852)	0.1924** (0.0862)
Constant	-10.1475* (4.9829)	-7.4194* (4.9710)
N	25	25
R ²	0.2819	
F	5.03	
Wald chi ²		6.27
Prob > chi ²		0.1796

Note: Standard errors in parenthesis. * $p \leq .10$ **; $p \leq .05$; and *** $p \leq .01$.

Table 6. Meta Regression estimates for Organization Citizenship Behavior

	OLS Robust	GEE
Sample size	0.0126*** (0.0027)	0.0125*** (0.0028)
Impact Factor	1.1388 (0.6174)	1.2676 (1.7915)
Logistic Regression	1.4685 (3.8378)	1.5613 3.5326
Corruption	0.0403 (0.0987)	0.0365 (0.0100)
Constant	-5.0126 (3.5443)	-4.9127 (3.5816)
N	20	20
R ²	0.7757	
F	50.49	
Wald chi ²		167.21
Prob > chi ²		0.0000

Note: Standard errors in parenthesis. * $p \leq .10$ **; $p \leq .05$; and *** $p \leq .01$.

Table 7. Funnel asymmetry (FAT) and meta-significance (MTS) tests

	FAT(1)	FAT(2)	MTS
	Dep Var. t-value	Dep Var. t-value	DepVar. LogAbs t-value
<i>Job Satisfaction</i>			
Precision (1/SE)	0.0766*** (0.0208)		
SQR SampleSize		0.0386 (0.0433)	
Log df			-0.0063 (0.2344)
Constant	0.7403 (0.4572)	1.4832 (0.9747)	0.1197 (0.5835)
Observations	41	41	41
R-squared	0.2576	0.0395	0.0000
<i>Individual Performance</i>			
Precision (1/SE)	0.0424** (0.0163)		
SQR SampleSize		-0.0166 (0.0113)	
Log df			0.1671 (0.1673)
Constant	-0.3155 (0.8017)	2.4727** (1.0856)	-0.5231 (0.6043)
Observations	41	41	41
R-squared	0.1258	0.0283	0.0001
<i>Negative Outcomes</i>			
Precision (1/SE)	-0.0262*** (0.0084)		
SQR SampleSize		-0.0731** (0.0297)	
Log df			0.6853* (0.3872)
Constant	0.2866 (0.4957)	2.0571** (0.8710)	-0.0558 (1.1178)
Observations	28	28	28
R-squared	0.0572	0.2367	0.0665
<i>Organizational Commitment</i>			

Precision (1/SE)	0.3104*** (0.0365)		
SQR SampleSize		0.0679 (0.0893)	
Log df			1.3098* (0.6923)
Constant	-1.6310** (0.7301)	2.3405 (1.5057)	-3.4572* (2.0197)
Observations	25	25	25
R-squared	0.6798	0.0255	0.1040

Organization Citizenship

Precision (1/SE)	0.1718 (0.1634)		
SQR SampleSize		0.6879*** (0.0855)	
Log df			2.1058* (1.0544)
Constant	5.6252 (3.5187)	-9.4986*** (2.2054)	-5.3426 (3.1152)
Observations	20	20	20
R-squared	0.0413	0.6746	0.3199

Note: Standard errors in parenthesis. * $p \leq .10$ ** $p \leq .05$; and *** $p \leq .01$

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Appendix1. List of all studies included in the analysis

	Study	Type	Method	Year (data)	Country
1	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
2	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
3	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
4	Birhane, Lakew Alemu. 2017. "Citizenship Behavior and Turnover Intention: The Role of Public Service Motivation and Career Commitments." Tilburg University.	Dissertation	OLS		Ethiopia
5	Brewer, Gene A., and Sally Coleman Selden. 2000. Why Elephants Gallop: Assessing and Predicting Organizational Performance in Federal Agencies. <i>Journal of Public Administration Research and Theory</i> , 10(4), 685-714.	Article	OLS	1996	U.S.
6	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.
7	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.
8	Bright, Leonard. 2013. Where does public service motivation count the most in government work environments? A preliminary empirical investigation and hypotheses. <i>Public Personnel Management</i> , 42(1), 5-26.	Article	SEM	2006	U.S.
9	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.
10	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.
11	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.

12	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.
13	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.
14	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.
15	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
16	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.
17	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
18	Jin, Myung H., Bruce D. McDonald, Jaehee Park, and Kang Yang Trevor Yu. 2017. Making public service motivation count for increasing organizational fit: The role of followership behavior and leader support as a causal mechanism. <i>International Review of Administrative Sciences</i> .	Article	OLS	2014	U.S.
19	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.
20	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
21	León-Cázares, Filadelfo. 2011. "Organizational Citizenship Behaviors among Public Employees in Guadalajara Metropolitan Area, Mexico." University of North Texas.	Dissertation	SEM	2011	Mexico
22	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

23	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
24	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
24	Morrison, Jennifer Caroline. 2012. The Impact of Public Service Motivation on the Turnover Intentions of Federal Employees. The University of Alabama.	Dissertation	OLS	2012	U.S.
25	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
26	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.
27	Palma, Raffaella, and Enrica Sepe 2017. Structural Equation Modelling: A Silver Bullet for Evaluating Public Service Motivation. <i>Quality & Quantity</i> , 51(2), 729-744.	Article	SEM	2015 - 2016	Italy
28	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.
29	Potipiroon, 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
30	Potipiroon, 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
31	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
32	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.
33	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 logit	2007	U.S.

34	Steijn, Bram. 2008. Person-Environment Fit and Public Service Motivation. <i>International Public Management Journal</i> , 11(1), 13-27.	Article	OLS	2006	Netherlands
35	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
36	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
37	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.
38	van Loon, Nina, Anne Mette Kjeldsen, Lotte Bøgh Andersen, Wouter Vandenaabeele, 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
39	van Loon, Nina. 2016. Is Public Service Motivation Related to Overall and Dimensional Work-Unit Performance as Indicated by Supervisors? <i>International Public Management Journal</i> , 19(1), 78-110.	Article	OLS	2014	Netherlands
40	Wright, Bradley E., Shahidul Hassan, and Robert K. Christensen. 2017. 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.
41	Zhu, Chunkui, and Chen Wu. 2016. Public service motivation and organizational performance in Chinese provincial governments. <i>Chinese Management Studies</i> , 10(4), 770-786.	Article	OLS	2011	China
