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High-Performance Human Resource Practices and Employee Outcomes: The Mediating Role of Public Service Motivation

Abstract: *This article responds to recent calls for research examining the mechanisms through which high-performance human resource practices (HPHRPs) affect employee outcomes. Using the theoretical lens of social exchange and process theories, the authors examine one such mechanism, public service motivation, through which HPHRPs influence employees' affective commitment and organizational citizenship behaviors in public sector organizations. A sample of professionals in the Egyptian health and higher education sectors was used to test a partial mediation model using structural equation modeling. Findings show that public service motivation partially mediated the relationship between HPHRPs and employees' affective commitment and organizational citizenship behaviors. Similar results were achieved when the system of HPHRPs was disaggregated to consider the individual effects of five human resource practices.*

Practitioner Points

- Managers should endeavor to ensure that sufficient resources are allocated to implement human resource practices.
- Investments in human resource systems may provide employees with the impetus needed to remain motivated when their desire to serve the public, their commitment to the organization, or their willingness to exert discretionary effort at work ebbs.
- Investment in a single human resource practice rather than a collective system may result in undermining certain desired employee outcomes.

Management scholars have long advocated the adoption of strategically driven human resource (HR) activities for improving the functioning of organizations (Perry 1993). More recently, such activities have been referred to as “high-performance” human resource practices (HPHRPs), and they are typically viewed as a group of coherent, interrelated HR practices designed to promote employee motivation and commitment (Kehoe and Wright 2013; Messersmith et al. 2011). Scholars have assembled a convincing body of empirical evidence supporting the HPHRP–performance relationship based on the experiences of both private (Combs et al. 2006; Wright et al. 2005) and public sector organizations (Messersmith et al. 2011). However, limited evidence exists across the sectors on the effects of HPHRPs on more proximal outcomes, namely, employee attitudes and behaviors, as most studies have considered distal organizational outcomes (e.g., financial returns, profitability, and service performance; see Kehoe and Wright 2013). Thus, while human resource management (HRM) commentators acknowledge that superior organizational performance

is achieved through the workforce, the mechanisms by which HPHRPs affect employees' attitudes and behaviors remain poorly understood (Messersmith et al. 2011; Takeuchi, Chen, and Lepak 2009). Our research examines a salient mechanism through which HPHRPs might affect employee outcomes in public sector organizations, namely, public service motivation (PSM).

Perry, Hondeghem, and Wise define PSM as “a particular form of altruism or prosocial motivation that is animated by specific dispositions and values arising from public institutions and [their] missions” (2010, 682). Researchers have noted the organizational antecedents of PSM, such as red tape, leader–member relationships, and coworker or supervisor influence (Camilleri 2007; Moynihan and Pandey 2007; Park and Rainey 2008; Taylor 2008; Wright, Moynihan, and Pandey 2011), along with the employee outcomes of PSM, such as job satisfaction, organizational commitment, and organizational citizenship behaviors (OCBs) (Anderfuhren-Biget et al. 2010; Leisink and Steijn 2009; Naff and Crum 1999; Vandenabeele

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2009). Only one study, however, has combined the two streams of research to consider the mediating role of civic duty, a component of PSM (Gould-Williams et al. 2014). This article aims to establish whether PSM acts as motivational mechanism that explains the relationship between HPHRPs and affective organizational commitment and OCBs.

We draw primarily on social exchange theory to explain why PSM may act as a mediator, an idea that is consistent with the prevailing view of both HRM (Kehoe and Wright 2013) and public administration scholars (Gould-Williams 2007; Gould-Williams and Davies 2005). According to Cropanzano and Mitchell, “Social exchange comprises actions contingent on the rewarding reactions of others, which over time provide for mutually and rewarding transactions and relationships” (2005, 890). The general idea of exchange is not new, having been first discussed more than 70 years ago by Barnard (1938) and later developed by March and Simon (1958), who proposed that exchanges are based on organizational *inducements* invoking corresponding employee *contributions*. In our case, an organization’s investments in HPHRPs are considered the “inducements” or “initiating actions” of the exchange relationship, with employee attitudes and behavioral responses being the “contributing” or “rewarding reactions.” We anticipate that such investments are likely to promote feelings of self-efficacy and encourage alignment of employee and organizational values, as evidenced by a heightened desire to serve the public.

We also draw on Perry’s (2000) process theory, which is often used by public administration scholars to explain the relationship between the organizational environment, PSM, and employee outcomes, including affective commitment and OCBs (Gould-Williams et al. 2014; Kim 2006; Leisink and Steijn 2009). According to process theory, the organizational environment influences PSM through socialization, effective job design, and performance feedback (see also Paarlberg, Perry, and Hondeghem 2008). In turn, PSM is predicted to lead to desirable employee and organizational outcomes. In this way, we anticipate that from both a social exchange theory and a process theory perspective, PSM may mediate the HPHRP–employee outcomes relationship.

Our choice of employee outcomes is based on the following reasoning. First, affective commitment and OCBs are central and prominent responses to positive social exchange relationships. According to Kehoe and Wright (2013), affective commitment reflects the bond between the employee and organization, while OCBs are a logical consequence of such affectivity. Second, OCBs are conventionally considered “discretionary behaviors” that do not form part of the formal employment contract but are a reflection of positive social exchanges. Third, both affective commitment and OCBs have been linked with enhanced organizational performance and thus have implications that extend beyond the individual (Messersmith et al. 2011).

This article is structured as follows. First, we use social exchange theory as our primary theoretical lens to explain the direct association between HPHRPs and employee attitudes and behaviors. Thereafter, we draw on both social exchange theory and process theory to explain why PSM mediates this relationship. Following a description of our methodology, we present structural equation

modeling results based on a sample of Egyptian public sector workers, and then we discuss the implications of our findings for both theory and practice.

HPHRPs and Social Exchange

Relationships between employers and employees are predominantly based on social and economic exchanges (Kehoe and Wright 2013). Economic exchanges specify contractual arrangements, such as pay, working hours, and holiday entitlements. These contractual obligations are clearly defined and enforceable through legal sanctions (Gould-Williams 2007). Relationships developed on the basis of economic exchanges are typified by discrete, financially oriented interactions with no explicit expectation that performance will go beyond the terms of the contract (Shore et al. 2006). Social exchanges, on the other hand, involve the development of interdependent relationships in which unspecified bidirectional transactions occur. In other words, “something” desirable is given by the “donor,” and at some future point in time, “something” desirable is returned by the “recipient” (Gould-Williams 2007). Such interdependence is based on “normative rules” of reciprocity (Gouldner 1960), which are the “defining characteristic” of social exchange relationships (Cropanzano and Mitchell 2005, 876). Because of the temporal gap between what is given and what is returned, successful social exchange relationships are characterized by high degrees of loyalty and trust between donor and recipient (Gould-Williams 2007).

Social exchange theory has been used extensively as a framework by both HRM (Kehoe and Wright 2013) and, to a lesser extent, public administration scholars (Gould-Williams 2007; Gould-Williams and Davies 2005) to explain the relationship between HPHRPs and employee outcomes. HPHRPs are typically conceived as a group of carefully designed combinations of HR practices meant to improve performance (Boselie, Dietz, and Boon 2005). The implementation of HPHRPs is premised on the assumption that organizations *want* to promote workforce commitment by investing in employees (the resource-based or “soft” approach to HRM; see Gould-Williams 2007). This is distinct from the control-based approach to HR management, in which employees are closely monitored and directed (the “hard” approach to HRM).

When organizations invest in HPHRPs, employees are assumed to view this as an expression of the organization’s trust and commitment to them, an appreciation of their work, and a desire to engage in a long-term relationship (Shore and Shore 1995; Sun, Aryee, and Law 2007). For instance, allowing employees to plan their work may signal that the organization trusts them. Personalized training and development programs can signal that organizations value employees, as they are prepared to invest in their careers and future prospects. Opportunities for promotion and job security may similarly signal the organization’s appreciation and recognition of employees’ long-term worth. Therefore, in combination, HPHRPs should promote the view that organizations are desirous of forming a long-term social rather than a short-term economic exchange relationship with employees (Kehoe and Wright 2013).

Signals sent by organizations through HPHRPs are not always perceived by employees as intended, however. “All HRM practices communicate messages constantly and in unintended ways, . . .

[thus] messages can be understood idiosyncratically” (Bowen and Ostroff 2004, 206; emphasis added). Two employees may have different perceptions of the same set of HPHRPs. Therefore, we will focus on employees’ “experiential-based perceptions” of HPHRPs rather than managers’ assessments of “intended” HR policy. Also, employees’ perceptions of HR practices are more likely to be aligned with their work-related attitudes and behaviors (Liao et al. 2009, 374). Moreover, we focus on the overall effect of a group or system of interrelated HR practices rather than a single practice, as the effectiveness of individual practices is often dependent on complementary HR practices. For example, investments in employee training and skill development may only be effective when employees are provided with opportunities to use their newly acquired skills through, among other things, autonomous work design. This approach is consistent with the general HRM literature and the social exchange view in that it is the combined effect of HR practices that influences employees’ perceptions of the organization’s investment in them and, thus, the state of the social exchange relationship (see Jiang et al. 2012; Sun, Aryee, and Law 2007).

The Direct Effect of HPHRPs on Employee Outcomes

According to social exchange theory, when employees perceive HPHRPs as indicative of the organization’s investment in them, they are likely to respond with positive attitudes (affective commitment) and behaviors (OCBs). Affective commitment refers to an employee’s emotional attachment to the organization, and it represents one of Allen and Meyer’s (1990) three dimensions of organizational commitment. Employees who are affectively committed or emotionally attached to the organization will stay with their organization because they *want* to, not because they *have* to (continuance) or feel they *ought* to (normative). In doing so, Kehoe and Wright contend, affectively committed employees will have “a sense of pride at being part of the organization” (2013, 371). Thus, when employees perceive HPHRPs as signaling a supportive work environment, they will feel motivated to work toward organizational goals and thus develop an affective bond with the organization. In other words, if the organization is committed to them, they will commit to it (Shore et al. 2006). Similarly, from a process theory perspective, when the work environment promotes collaboration between employees through teamwork, training, and effective communication, the social interactions will provide opportunities for employee bonding and increased identification and commitment to the organization (Perry 2000).

On the basis of social exchange theory, Kehoe and Wright (2013) suggest it is unlikely that employees’ affective commitment alone will be sufficient to “balance the scales” given the high investments made by the organization in HPHRPs. Accordingly, employees may feel compelled to make “further contributions . . . to level the field” (Kehoe and Wright 2013, 372) by displaying positive work-related behaviors, such as OCBs. OCBs have been defined as “individual behaviors that are discretionary, not directly or explicitly recognized by the formal reward system and that in the aggregate promote the effective functioning of the organization” (Organ 1988, 4). As such, OCBs go beyond task performance by capturing activities that are not contractually specified and hence epitomize behaviors associated with positive social exchanges. Public sector studies by Gould-Williams (2007), Boselie (2010), Gould-Williams et al. (2014), and Messersmith et al. (2011) support these claims. Thus, we hypothesize the following:

Hypothesis 1: HPHRPs will be positively related to employees’ (a) affective commitment and (b) OCBs.

The Indirect Effect: The HPHRP–PSM Link

Within the public sector, an additional outcome of the social exchange relationship is public service motivation, which we predict will mediate the link between HPHRPs and employee outcomes. Before discussing this relationship, we first define and demonstrate how PSM differs conceptually from employee outcomes.

PSM is defined as a person’s predisposition to respond to motives that are mainly or distinctly grounded in public institutions (Perry and Wise 1990). It also refers to the beliefs, values, and attitudes that go beyond self- and organizational interest and motivate individuals to participate in behaviors that are beneficial to the community or to society in general (Vandenabeele 2007). These same values are encapsulated in the missions of many public organizations. Thus, PSM can be viewed as a prosocial value that encourages employees to engage in behaviors that are beneficial to the community.

Conceptually, PSM differs from employee outcomes in “subtle, but theoretically important ways” (Gould-Williams et al. 2014, 939). Here we focus on three distinctions: its focus, proximity, and stability. As a concept, PSM captures the degree to which employees are committed to serving the public or the community at large. As such, the principal beneficiary of employees’ motivation lies outside the organization. In contrast, employee outcomes relate directly to employees’ work or job environment (e.g., *job* satisfaction, *organizational* commitment, *organizational* citizenship behaviors). Nevertheless, both PSM and employee outcomes independently affect organizational performance in the public sector (Kim 2005).

Second, with regard to the proximity of PSM to HPHRPs, we refer to process theory (Perry 2000). According to Perry, sociohistorical context (an individual’s education, religious affiliation, and parental influence) affects the extent to which an individual is public service motivated. Thus, sociohistorical factors shape an individual’s PSM before he or she enters the organization. In contrast, affective commitment and OCBs (along with other employee outcomes) are shaped and developed within the work context. Therefore, employee outcomes can only become evident *after* an employee enters the organization, whereas PSM is already apparent *prior to* entry. Nevertheless, process theory predicts that the same workplace context that influences employee outcomes may also influence employees’ PSM.

Third, PSM has been conceptualized as a relatively stable variable that changes slowly over time (Wright and Grant 2010). Although there is limited evidence as to whether PSM should be regarded as trait- or state-like, it appears that as a value, PSM is more stable than employee outcomes (attitudinal and behavioral responses such as job satisfaction and OCBs), which may fluctuate daily depending on employees’ work experiences. For instance, Ilies, Scott, and Judge describe OCBs as “episodic behavior” in which in-role behaviors are “punctuated by occasions when people do something that makes a difference” (2006, 561). Therefore, while employee outcomes largely reflect situational influences at work, PSM is a more enduring individual value that is linked to the well-being of others. Nevertheless, we acknowledge that employees’ PSM is not impervious to

managerial influences, or beneficiary contact, and thus has state-like characteristics (see Bellé 2013; Grant 2007).

From a social exchange theory perspective, we anticipate that employees reciprocate organizational investments in HPHRPs by becoming more empathetic toward the organization's mission and more desirous of the organization being successful, as evident in increased PSM. In other words, we propose that investments in HPHRPs will result in the organization's mission to serve the public becoming more salient to employees as their indebtedness increases.

Likewise, from a process theory perspective, the work environment will influence employees' PSM through HPHRPs in that training and development programs will not only equip employees with the skills needed to perform tasks, thus increasing their perceptions of self-efficacy, but also provide organizations with opportunities to reinforce desired employee values (PSM), attitudes, and behaviors. Effective communication systems can reinforce the importance of employees' job roles and provide direction and feedback as they strive to achieve organizational goals. Job security and internal promotion will assist in retaining trained workers whose values, attitudes, and behaviors are consistent with the organization's mission to serve the community. Although researchers have discussed the potential for HR practices to influence PSM (Giauque, Anderfuhren-Biget, and Varone 2013; Vandenabeele 2011), and Gould-Williams et al. (2014) provide evidence for a component of PSM, civic duty, we empirically test this relationship using a complete measure of PSM.

Hypothesis 2: HPHRP will be positively related to employees' PSM.

The Indirect Effect: The PSM–Employee Outcomes Link

Process theory predicts that PSM will lead to desirable outcomes when employees can express their prosocial motivations to serve the public at work. This view is consistent with the self-concept (Shamir 1991), which asserts that individuals have multiple identities (e.g., father, teacher, musician, carer) and derive satisfaction from engaging in roles that are consistent with such identities. When individuals primarily define themselves as givers, they will seek to maintain their prosocial identities as one of the “most important motives, values, and guiding principles in life” (Grant, Dutton, and Rosso 2008, 900). For instance, Gould-Williams et al. (2014) and Vandenabeele (2009) allude to the importance of the self-concept when they assert that PSM will be associated with positive attitudes and behaviors if organizations provide opportunities for employees to engage in meaningful public service. This can be achieved through employees' direct contact with service beneficiaries or by receiving positive feedback relating to their role in the service delivery chain.

If we assume that public sector organizations are more likely to provide work that is consistent with the prosocial identities of public service employees, then employees' self-identities are reinforced. They will then be desirous of displaying attitudes and behaviors of benefit to the organization, as evidenced by their affective commitment and displays of OCBs (Gould-Williams et al. 2014; Kim 2006, 2012; Leisink and Steijn 2009). HPHRPs are likely to promote such an environment as managers permit employees to engage in autonomous work design, as well as listen to and

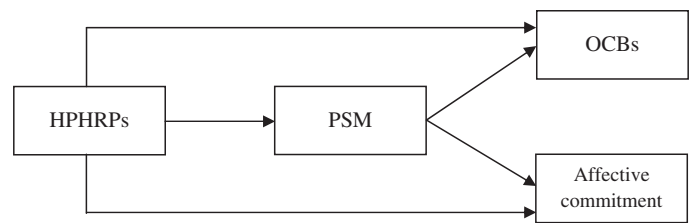


Figure 1 Outlines our Conceptual Model

communicate relevant issues with employees. Therefore, we anticipate that HPHRPs will also have an indirect effect (through PSM) on employee outcomes as employees' attitudes and behaviors will be consistent with their self-concepts. On the basis of process theory, we propose the following two hypotheses:

Hypothesis 3: PSM will be positively related to employees' (a) affective commitment and (b) OCBs.

Hypothesis 4: PSM will mediate the relationship between HPHRPs and employees' (a) affective commitment and (b) OCBs.

Method

Research Setting

Our sample included academics, administrators, physicians, nurses, and pharmacists from public sector organizations in Egypt. Access to organizations was obtained through personal contacts of a research team member in the area. Data were then collected from a convenience sample of employees within each organization. To reduce social desirability response bias, pen-and-paper questionnaires were distributed during January 2012 by a member of the research team to individuals on a face-to-face basis during working hours. Participants were reassured that all responses would be treated anonymously (Miao et al. 2013). The researcher returned to collect the completed questionnaires the following day and on two other occasions. The English-language questionnaire was back-translated into Arabic and pre-tested with a group of Egyptian health and education professionals (Brislin 1970).

Sample Characteristics

Of the 1,000 questionnaires distributed, 671 were returned, for a 67 percent response rate. Just over half the respondents were male (53.5 percent); 51 percent were ages 20–30, 22 percent were 31–40, and 27 percent were older than 40. With regard to educational background, 31 percent had a doctorate, 21 percent a master's degree, and 42 percent a bachelor's degree, while 6 percent had vocational qualifications. In addition, 37 percent of respondents had worked for their employer for less than 5 years, 25 percent between 5 and 10 years, and 38 percent more than 10 years.

Measures

Constructs were measured using multi-item scales derived from existing studies whenever possible (see appendix). All items were measured on Likert scales with the endpoints “strongly disagree” (1) and “strongly agree” (7).

HPHRPs

Twenty items were selected from existing studies to measure our five HPHRPs, which were consistent with social exchange theory.

The practices are generally referred to as “soft” or “developmental” in that their implementation is designed to promote worker well-being and enhanced commitment (Gould-Williams 2007). We were careful to avoid HR practices that emphasize economic rather than social exchanges (such as wages and performance-related pay). Our practices included (1) training and development, (2) job security, (3) autonomous work design, (4) communication, and (5) promotion (Boon et al. 2011; Boselie 2010; Kehoe and Wright 2013; Morgeson and Humphrey 2006). Sample items included, “My organization offers opportunities for training and development” (training); “Employees in this job can be expected to stay with this organization for as long as they wish” (job security); “My organization allows me to plan how I do my work” (autonomous work design); “The communication between me and other employees at work is good” (communication); and “I have good opportunities of being promoted within this organization” (promotion). Cronbach’s alpha for these HPHRP factors ranged between 0.77 and 0.92.

PSM

PSM was measured using a 13-item scale comprising four first-order factors developed by Perry (1996) and refined by Giauque et al. (2011). A pre-test confirmed its suitability for the Egyptian context. Attraction to public policy making (e.g., “I am very interested in politics”), compassion (“It is difficult for me to contain my feelings when I see people in distress”), and commitment to the public interest (“I unselfishly contribute to my society”) were each measured with three items, while self-sacrifice (“I am prepared to make enormous sacrifices for the good of the society”) comprised four items. Cronbach’s alphas ranged from 0.65 to 0.82.

Affective Commitment

Affective commitment was measured using an abridged three-item version of Meyer, Allen, and Smith’s (1993) scale. A sample item is “I feel emotionally attached to this organization” ($\alpha = 0.89$).

OCBs

Citizenship was also measured using an abridged three-item version of Lee and Allen’s (2002) scale. A sample item is “I offer ideas to improve the functioning of the organization” ($\alpha = 0.77$).

Controls

Initially, we controlled for the effects of employees’ age, gender, education, and tenure on PSM and outcome variables (OCBs and organizational commitment; see Messersmith et al. 2011; Meyer, Allen, and Smith 1993; Moynihan and Pandey 2007). Our results were highly consistent with and without their inclusion. Consequently, in the interest of precision and parsimony, and consistent with recent recommendations of Williams, Vandenberg, and Edwards (2009), we report the results “control free.”

Analysis

Structural equation modeling was undertaken with AMOS18. We followed Anderson and Gerbing’s (1988) two-step approach, first estimating the measurement model before considering the structural model. Although the items were broadly normally distributed, to minimize type I error, models were estimated using maximum likelihood with bootstrapped standard errors based on 1,000 resamplings. Here, the resampled coefficient estimates served as a proxy

for the sampling distribution of the population parameters (Im and Workman 2004). Confirmatory factor analysis (CFA) assessed the factor structure, reliability, and validity of the four focal latent variables. Before presenting the overall measurement model and testing for common method bias, separate models established the appropriateness of the two higher-order constructs for HPHRPs and PSM.

Measurement Validation

Treating HPHRPs as a more general, superordinate concept that is manifest through individual HR practice subdimensions is justifiable theoretically (Jiang et al. 2012). To determine empirically whether our five HR practices reflected such a higher-order construct, a second-order factor model was estimated. The model exhibited a satisfactory fit ($\chi^2_{165} = 851.255, p < .001$; CFI [comparative fit index] = 0.918, RMSEA [root mean square error of approximation] = 0.079, SRMR [standardized root mean square residual] = 0.059). All the standardized first-order loadings were positive, substantial, and statistically significant (not shown), suggesting that each HR practice was well defined, but more importantly, the second-order loadings were associated with the higher factor: training (0.851), promotion (0.858), job security (0.674), communication (0.860), and work design (0.751, $p < .001$).

With regard to PSM, one item was dropped from the attraction to policy making factor because it loaded weakly (0.22), and another was dropped from the commitment to public interest factor because of serious cross-loading. Thereafter, the second-order measurement model exhibited a good fit ($\chi^2_{40} = 172.323, p < .001$; CFI = 0.955, RMSEA = 0.070, SRMR = 0.043). Again, all standardized second-order loadings were substantial and significant: self-sacrifice (0.827), compassion (0.674), commitment to public interest (0.990), and attraction to policy making (0.436, $p < .001$). Thus, PSM was also treated at the more general, abstract, second-order level in the subsequent structural model.

Overall Measurement Model

The four focal constructs, comprising two first-order (OCB and affective commitment) and two second-order factors (HPHRPs and PSM), were entered into a CFA to assess their psychometric properties. Results revealed a satisfactory fit ($\chi^2_{614} = 1154.612, p < .001$; CFI = 0.913, RMSEA = 0.052, SRMR = 0.062), with all first- and second-order loadings significant ($p < .001$). For each latent variable, composite reliability was greater than 0.70, and average variance extracted exceeded 0.50, indicating that each construct possessed high internal consistency. In addition, all constructs achieved discriminant validity based on Fornell and Larcker’s (1981) approach, as the square root of their average variance extracted estimates exceeded their corresponding interconstruct correlations (see table 1).

Table 1 Intercorrelations and Reliability Estimates

Construct	1	2	3	4
1. HPHRPs	0.72 (0.84)*			
2. PSM	0.30**	0.84 (0.76)		
3. OCBs	0.61	0.62	0.73 (0.77)	
4. Affective commitment	0.55	0.57	0.657	0.83 (0.87)

*Subdiagonal entries are the latent construct intercorrelations. The diagonal shows the square root of the AVE with composite reliability in parentheses.

**All correlations above 0.2 are significant at $p < .001$.

1 **Common Method Variance**

2 Defined as artificial correlation among the constructs attributable to
 3 the measurement method employed (Podsakoff et al. 2003), com-
 4 mon method variance can bias survey-based results. As all variables
 5 were collected from the same respondents at the same time, the
 6 effects of common method variance were assessed using Harman's
 7 test and the more stringent latent method factor approach (see
 8 Chang, Van Witteloostuijn, and Eden 2010). In the latter, each item
 9 loaded on its theoretical construct and the latent common method
 10 factor (Podsakoff et al. 2003). The impact on the intercorrelations
 11 (table 1) was negligible; all remained significant. Moreover, the aver-
 12 age variance extracted by the common method factor was 0.21, well
 13 below the 0.50 threshold that Fornell and Larcker (1981) associated
 14 with a substantive construct. Thus, common method bias was not
 15 problematic.

16
 17 **Structural Model**

18 To account for the association between OCBs and affective com-
 19 mitment, the assumption of independence between these latent
 20 variables' residual errors was relaxed, and disturbances were allowed
 21 to correlate (see Im and Workman 2004). To test the mediating role
 22 of PSM, the significance of individual path coefficients first was
 23 assessed, and then the combined indirect effect was gauged using
 24 Preacher and Hayes's (2004) bootstrapped variant of the Sobel test.
 25 Results are presented initially treating HPHRPs as a system of prac-
 26 tices (second-order factor), followed by practice-by-practice analyses.

27
 28 The proposed structural model provided an adequate fit to the data
 29 ($\chi^2_{614} = 1154.612, p < .001$; CFI = 0.913, RMSEA = 0.052, SRMR =
 30 0.062). Together, HPHRPs and PSM explained 58.8 percent of the
 31 variance ($R^2 = 0.588$) in OCBs and 48.4 percent in affective com-
 32 mitment. In addition, HPHRPs accounted for a modest 8.9 percent of
 33 the variance in PSM. As shown in figure 2, HPHRP had significant
 34 positive effects on OCBs ($\beta = 0.468, p < .001$), affective commitment
 35 ($\beta = 0.410, p < .001$), and PSM ($\beta = 0.299, p < .001$). Thus, hypoth-
 36 eses 1a, 1b, and 2 were supported, as HPHRP enhanced employee
 37 work-related attitudes and desire to serve the public. Likewise, PSM
 38 was positively related to both OCBs and affective commitment
 39 ($\beta = 0.483$ and $\beta = 0.452$, respectively, $p < .001$). Thus, consist-
 40 ent with hypotheses 3a and 3b, PSM was associated with positive
 41 work-related attitudes and behaviors. Together, the individual path
 42 coefficients provide prima facie evidence that PSM mediated the
 43 relationship between HPHRPs and employee outcomes.

44
 45 Next, mediation tests of the indirect relationship between HPHRPs
 46 and each employee outcome were conducted using the Preacher-
 47 Hayes (2004) bootstrapped approach. The coefficient associated

with the indirect path is labelled $a * b$, where a is the standardized
 path coefficient from HPHRPs to PSM and b is the standardized
 path from PSM to the respective employee outcome (see figure 2).
 For instance, the indirect effect of HPHRPs through PSM to OCBs
 was 0.144 (0.299×0.483). It was significantly different from zero
 (Sobel test = 3.71, $p < .001$). Thus, PSM mediated the relationship
 between HPHRPs and OCBs. Repeating the test for affective com-
 mitment ($\beta = 0.135$, Sobel test = 3.66, $p < .001$) revealed a similar
 conclusion in support of hypothesis 4. Nevertheless, the direct paths
 from HPHRPs to employee outcome remained statistically signifi-
 cant after accounting for PSM, indicating that PSM only acted as a
 partial mediator of this process and, by inference, that other media-
 tors await discovery (see the Discussion section).

73
 74 **Robustness Tests**

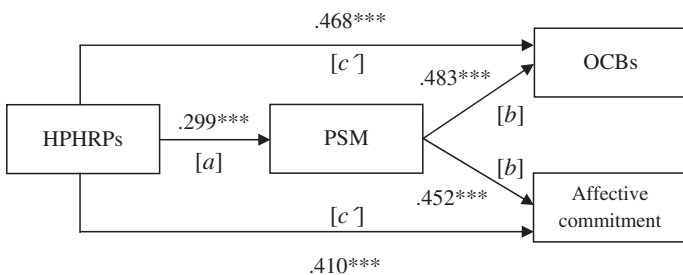
75 To examine the effect of each individual high-performance HR
 76 practice, we repeated the analysis five times, replacing the second-
 77 order (HPHRP) factor with a first-order practice factor. Model fits
 78 were good (see table 2), but, more importantly, each HR practice
 79 was positively related to PSM, which, in turn, was positively related
 80 to both organizational commitment and OCBs. Moreover, the
 81 Preacher-Hayes Sobel tests indicated that all indirect effects (5
 82 practices * 2 employee outcomes) were significant ($p < .05$). Thus,
 83 the individual practices "behaved" consistently, with PSM partially
 84 mediating these relations.

85
 86 Finally, we determined the total effect of each HR practice on
 87 each employee outcome. The total effect is simply the sum of the
 88 direct and indirect standardized path coefficients [$c' + (a * b)$]. For
 89 instance, the total effect of training on commitment was 0.487
 90 [$0.315 + (0.215 * 0.515)$]. Examining the results from a practice-
 91 by-practice perspective revealed that training (0.487 versus 0.426),
 92 promotion (0.426 versus 0.396), and communication (0.606 versus
 93 0.487) had a greater association with OCBs than organizational
 94 commitment. Conversely, job security (0.269 versus 0.210) and
 95 autonomous work design (0.396 versus 0.292) had a greater asso-
 96 ciation with organizational commitment than OCBs. Examining
 97 these results from an outcome-by-outcome perspective revealed that
 98 communication was the most important and job security the least
 99 important practice for promoting both OCBs and commitment.

100
 101 **Discussion**

102 Overall, our findings are consistent with our hypotheses: employee
 103 perceptions of HPHRP are positively associated with PSM, affective
 104 commitment, and OCBs. Furthermore, PSM partially mediates the
 105 HPHRP-employee outcome relationship. Thus, according to social
 106 exchange theory, when organizations signal their desire to engage in
 107 social exchange relationships by investing in systems of HPHRPs,
 108 employees respond by becoming more empathetic toward the
 109 organization's mission and reciprocate with attitudes and behaviors
 110 of benefit to the organization. In addition, all five HR practices used
 111 in our system had positive effects on PSM, organizational commit-
 112 ment, and OCBs. However, the relative association of each HR
 113 practice differed across the employee outcomes and PSM (see table
 114 2). This suggests that PSM is both conceptually and empirically
 115 different from the employee outcomes.

116
 117 While prior public sector research has alluded to the importance
 118 of HR practices in promoting PSM and employee outcomes



59 **Figure 2 Structural Model Results (standardized coefficients)**

1 **Table 2** Results of Individual HR Practice Models

2 Path	Training	Promotion	Work Design	Job Security	Communication
3 HR practice → PSM	0.215***	0.231***	0.158**	0.270***	0.267***
4 HR practice → Commitment	0.315***	0.276***	0.223***	0.120**	0.357***
5 PSM → Commitment	0.515***	0.519***	0.548***	0.551***	0.487***
6 Sobel test	3.904***	2.895**	3.550***	3.770***	3.731***
7 HR practice → OCBs	0.367***	0.294***	0.196***	0.040	0.471***
8 PSM → OCBs	0.550***	0.570***	0.609***	0.630***	0.506***
9 Sobel test	3.937***	2.929**	3.475***	3.629***	3.757***
9 <i>Model fit statistics</i>					
10 $\chi^2_{(16)}$	296.563	312.552	290.573	275.560	314.312
11 RMSEA	0.051	0.053	0.049	0.046	0.054
12 CFI	0.959	0.947	0.958	0.958	0.947
13 SRMR	0.049	0.049	0.055	0.051	0.051

13 * $p < 0.05$; ** $p < .01$; *** $p < .001$.

16 (Giauque, Anderfuhren-Biget, and Varone 2013; Vandenberghe 2011), our study empirically confirms that employees' perceptions of HR practice affect these outcomes. Our results are consistent with previous research that has examined either organizational antecedents (Camilleri 2007; Moynihan and Pandey 2007; Vandenberghe 2011) or employee outcomes (Kim 2005; Naff and Crum 1999; Vandenberghe 2009) of PSM. Specifically, we demonstrate that after entry, an organization's HPHRPs can influence employees' PSM, which, in turn, is associated with desirable employee outcomes. However, the effect size of HPHRPs on PSM is relatively small ($R^2 = 0.08$) but nevertheless consistent with Gould-Williams et al.'s (2014) study of Welsh civil servants. As we have considered just one of many possible "institutional shapers of individual beliefs and behavior" (Moynihan and Pandey 2007, 41), we anticipate that the effects of HPHRPs in combination with other "institutional shapers" will be more substantial (Perry and Vandenberghe 2008).

34 Our study, using the full four-component measure of PSM, extends and confirms research reported by Gould-Williams and colleagues (2014) based on a narrower single-component measure, civic duty. Similarly, our system of HR practices is guided by social exchange theory, which emphasizes socialization and adaptation, whereas Gould-Williams et al.'s study was based on recruitment, selection, and attrition criteria (Jiang et al. 2012; Wright and Grant 2010). Nevertheless, despite adopting a different theoretical lens and measures, our conclusions are consistent.

44 These results have implications for managers who are interested in improving social exchanges in public sector organizations. As investments in HPHRPs are positively associated with PSM and desirable employee outcomes, managers should endeavor to ensure that sufficient resources are allocated to implement HR practices. Further, the costs associated with HR practices not only involve financial investments (e.g., in paying for training programs and effective communication systems) but workforce investments, too (e.g., retaining staff to promote job security and identifying qualified individuals for promotion). Such investments can signal the organization's long-term commitment to the workforce.

56 Also, it is possible that managers' adoption and ongoing investments in HR systems may provide employees with the impetus needed to remain motivated when their desire to serve the public, their commitment to the organization, or their willingness to exert

discretionary effort at work ebbs. Meaningful communication may not only reassure employees that their contributions are valued but also reinforce the importance of their job and services offered to the public. Investments in training and development programs should not only equip employees with job-related skills and the confidence to deliver (increase their self-efficacy) but also provide them the competencies needed to fulfil their career aspirations. However, investing in systems of HR practices is likely to pose a substantial challenge to managers in today's efficiency-driven climate. At the very least, our findings will assist managers in making informed decisions, aware that their investments (or lack of) in HR systems will affect workforce performance in important ways.

Finally, while the overall system of HPHRPs is positively associated with PSM and employee outcomes, individual HR practices had differential effects. For instance, perceptions of job security were an important driver of PSM but had a much reduced effect on affective commitment and OCBs. In contrast, both communication and training and development programs were important drivers of affective commitment and OCBs but not PSM. Therefore, although managers may opt to invest in a single HR practice rather than a collective system, we suggest that such selectivity may unintentionally result in undermining a desired employee outcome.

Conclusion

Identifying the mechanisms through which high-performance human resource practices affect employee outcomes has become of central importance to scholars in the HRM field. Our article contributes to this literature by considering a mechanism of relevance to public sector organizations, PSM. Although prior research has evaluated the effects of organizational factors on PSM and, in turn, PSM on employee outcomes, we link the two streams of research together to show that PSM is a motivational mechanism through which HPHRPs influence affective commitment and OCBs.

As always, results must be discussed within the boundaries of the study's limitations, which suggest interesting avenues for future research. First, the research design was cross-sectional, precluding casual inference. For instance, it is possible that employees who are highly committed to the organization are more likely to endorse its mission, goals, and values (encapsulated in PSM), given their attachment to and desire for the organization to succeed. Likewise, it is possible that as employee and organizational values align, perceptions of HPHRPs will be more favorable.

1 Second, social exchange relations have been analyzed from a static
2 rather than dynamic perspective. Yet HR practices continuously
3 send signals that employees may interpret in idiosyncratic and
4 unintended ways (Bowen and Ostroff 2004). For instance, two
5 employees may have similar perceptions of an individual HR prac-
6 tice (or overall system) today. To one employee, this may constitute
7 an improvement compared with “last quarter,” thereby signaling
8 greater organizational support, while to another, this may be a dete-
9 rioration, signaling less organizational support. Longitudinal data
10 will enable the unique contribution of levels and changes in HR
11 practice perceptions to be identified and issues of casual inference
12 addressed.

13
14 Third, the use of self-reported measures of OCBs, while consist-
15 ent with other recent public sector studies (e.g., Taylor 2013),
16 may have inadvertently inflated observed correlations. To allay
17 problems of common method bias (Podsakoff et al. 2003) and
18 overreliance on weak post hoc statistical test procedures (Chang,
19 Van Witteloostuijn, and Eden 2010), collecting data from multiple
20 informants, such as supervisory ratings of employees’ OCBs and
21 affective commitment, would be desirable. Nevertheless, PSM and
22 HR practice perceptions would remain same-sourced. Alternatively,
23 employee and managerial perspectives could be contrasted.

24
25 Fourth, the relationships between our focal constructs, as presented
26 in figure 1, are premised on the norms of reciprocity. This asserts
27 people *will want* to reciprocate past good deeds with positive future
28 actions (Angle and Perry 1983). However, the empirical evidence
29 suggests that indebtedness is a highly heterogeneous individual
30 characteristic (Shore and Coyle-Shapiro 2003). When felt obliga-
31 tion is high, individuals are likely to reciprocate strongly in the
32 form of desirable employee outcomes. When felt obligation is lower,
33 responses will be diminished. Research assessing the moderating
34 role of employees’ perceived indebtedness should provide a more
35 complete and nuanced understanding of our model’s theoretical
36 relations.

37
38 Fifth, as PSM only partially mediates the HPHRP–employee out-
39 comes relationship, other mediators await discovery. An interesting
40 candidate is prosocial impact, a construct of central relevance to the
41 public sector (Grant 2007). Prosocial impact captures employees’
42 perceptions of the importance and impact of their work on benefi-
43 ciaries. From a social exchange theory perspective, as organizations
44 invest in HPHRPs, they may not only signal to their employees
45 the extent to which they are valued but also help them understand
46 how their work benefits others and, in so doing, enhance employee
47 attitudes and behaviors (Grant 2007).

48
49 Finally, the generalizability of our findings remains unknown. The
50 data comprised a convenience sample collected from Egyptian
51 higher education and health sector professionals. Nevertheless, our
52 results are consistent with prior studies exploring either antecedents
53 or consequences of PSM in both individualistic and collectivistic
54 cultures (Gould-Williams et al. 2014; Kim 2012; Leisink and Steijn
55 2009). Thus, we are optimistic that future studies across differ-
56 ent cultures and public service settings will confirm these results.
57 In spite of these limitations, we have shown that PSM is a nota-
58 ble mechanism by which HPHRPs are associated with desirable
59 employee outcomes in public sector organizations.

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Uncorrected Proofs

1	Appendix Questionnaire Items and Statistics				60
2	Constructs and Items	Mean	SD	Factor Loadings	61
3	High Performance Human Resource Practices				62
4	Training and development				63
5	"My organization offers opportunities for training and development."	3.642	2.000	0.810	64
6	"In my opinion, the number of training programs provided for employees by my organization is sufficient."	3.150	1.806	0.833	65
7	"When my job involves new tasks, I am properly trained."	3.323	1.818	0.869	66
8	"My organization provides excellent opportunities for personal skills development."	3.178	1.844	0.839	67
9	Job security				68
10	"Employees in this job can be expected to stay with this organization for as long as they wish."	4.813	1.774	0.713	69
11	"Job security is almost guaranteed to employees in this organization."	4.637	1.956	0.818	70
12	"If the organization was facing economic problems, employees would be the last to get downsized."	4.730	1.803	0.582	71
13	"I am certain of keeping my job."	5.166	1.717	0.653	72
14	Work design				73
15	"My organization allows me to plan how I do my work."	3.308	1.918	0.729	74
16	"My organization allows me to make a lot of job decisions on my own."	3.311	1.936	0.913	75
17	"My organization allows me to decide on my own how to go about doing my work."	3.558	1.967	0.849	76
18	"My organization gives me considerable opportunity for independence and freedom in how I do the work."	4.068	1.942	0.631	77
19	Communication				78
20	"The communication between me and other employees at work is good."	3.566	1.815	0.775	79
21	"Management keeps me well informed of how well the organization is doing."	5.490	1.250	0.629	80
22	"The communication between me and the managers/supervisors at work is good."	5.108	1.562	0.716	81
23	"Employees in my organization regularly receive formal communication regarding company goals and objectives."	3.877	1.760	0.659	82
24	Promotion				83
25	"I have good opportunities of being promoted within this organization."	4.406	1.966	0.604	84
26	"The promotion process used by my organization is fair for all employees."	4.003	1.990	0.753	85
27	"Employees who desire promotion in this organization have more than one potential position they could be promoted to."	3.526	1.824	0.741	86
28	"Qualified employees in this job have the opportunity to be promoted to positions of greater pay and/or responsibility within the organization."	3.792	1.869	0.719	87
29	Public Service Motivation				88
30	Attraction to public policy making				89
31	"I am very interested in politics."	5.147	1.541	0.967	90
32	"I like to discuss political issues with others."	5.189	1.537	0.872	91
33	"I don't care much for politicians." (Reverse-coded)*	4.712	1.831	—	92
34	Commitment to public interest				93
35	"I unselfishly contribute to my society."	5.928	0.945	0.823	94
36	"I would prefer seeing public officials do what is best for the society even if it harmed my interest."	5.717	1.328	0.765	95
37	"I am very interested in what is happening in my society."*	6.076	0.977	—	96
38	Compassion				97
39	"It is difficult for me to contain my feelings when I see people in distress."	5.776	1.295	0.634	98
40	"I am often moved by the plight of the underprivileged."	6.244	0.833	0.844	99
41	"I am often reminded by daily events about how dependent we are on one another."	5.864	1.016	0.559	100
42	Self-sacrifice				101
43	"I am prepared to make enormous sacrifices for the good of the society."	5.761	1.124	0.768	102
44	"Serving citizens would give me a good feeling even if no one paid me for it."	6.035	1.120	0.698	103
45	"It is definitely more important to me to do good deeds than doing well financially."	5.925	1.168	0.676	104
46	"Making a difference in society means more to me than personal achievements."	5.807	1.231	0.803	105
47	Organizational Commitment				106
48	"I feel emotionally attached to this organization."	4.824	1.767	0.774	107
49	"I really feel as if this organization's problems are my own."	4.801	1.946	0.852	108
50	"I feel a strong sense of belonging to my organization."	4.773	1.895	0.848	109
51	OCBs				110
52	"I offer ideas to improve the functioning of the organization."	4.891	1.703	0.759	111
53	"I defend the organization when other employees criticize it."	4.935	1.637	0.762	112
54	"I demonstrate concern about the image of the organization."	5.909	1.332	0.668	113
55	*These items were deleted from the final analysis.				114
56					115
57					116
58					117
59					118