

# How Do High-Performance Work Systems Affect Individual Outcomes: A Multilevel Perspective

Junwei Zhang<sup>1</sup>, Muhammad N. Akhtar<sup>2</sup>, Peter M. Bal<sup>3</sup>, Yajun Zhang<sup>4\*</sup>, Usman Talat<sup>5</sup>

<sup>1</sup>College of Economics and Management, Huazhong Agricultural University, China, <sup>2</sup>NUST Business School, Department of Management & HR, National University of Sciences and Technology, Pakistan, <sup>3</sup>Lincoln Business School, University of Lincoln, United Kingdom, <sup>4</sup>School of Business Administration, Guizhou University of Finance and Economics, China, <sup>5</sup>Salford Business School, University of Salford, United Kingdom

*Submitted to Journal:*

Frontiers in Psychology

*Specialty Section:*

Organizational Psychology

*Article type:*

Original Research Article

*Manuscript ID:*

327911

*Received on:*

04 Nov 2017

*Revised on:*

31 Mar 2018

*Frontiers website link:*

[www.frontiersin.org](http://www.frontiersin.org)

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### *Conflict of interest statement*

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest

### *Author contribution statement*

Conceived and designed the theoretical model and wrote the first manuscript: Junwei Zhang

Analyzed the data: Muhammad Naseer Akhtar

Conceived and designed the theoretical model: P. Matthijs Bal

Performed the survey: Yajun Zhang

Improved the manuscript: Usman Talat

### *Keywords*

high-performance work systems, Organization-based self-esteem, line managers' goal congruence, job performance, Job Satisfaction

### *Abstract*

Word count: 159

Research on high-performance work systems (HPWS) has suggested that a potential disconnection may exist between organizational-level HPWS and employee experienced HPWS. However, few studies have identified factors that are implied within such a relationship. Using a sample of 397 employees, 84 line managers, and 21 HR executives in China, we examined whether line managers' goal congruence can reduce the difference between organizational-level HPWS and employee experienced HPWS. Furthermore, this study also theorized and tested organization-based self-esteem (OBSE) as a mediator in the associations between employee experienced HPWS and job performance and job satisfaction. Using multilevel analyses, we found that line managers' goal congruence strengthened the relationship between organizational-level HPWS and employee experienced HPWS, such that the relationship was significant and positive when line managers' goal congruence was high, but a nonsignificant relationship when line managers' goal congruence was low. Moreover, employee experienced HPWS indirectly affected job performance and job satisfaction through the mechanism of OBSE beyond social exchange perspective.

### *Funding statement*

We acknowledge the financial support from the National Natural Science Foundation of China (project 71602065)

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In review

# How Do High-Performance Work Systems Affect Individual

## Outcomes: A Multilevel Perspective

Research on high-performance work systems (HPWS) has suggested that a potential disconnection may exist between organizational-level HPWS and employee experienced HPWS. However, few studies have identified factors that are implied within such a relationship. Using a sample of 397 employees, 84 line managers, and 21 HR executives in China, we examined whether line managers' goal congruence can reduce the difference between organizational-level HPWS and employee experienced HPWS. Furthermore, this study also theorized and tested organization-based self-esteem (OBSE) as a mediator in the associations between employee experienced HPWS and job performance and job satisfaction. Using multilevel analyses, we found that line managers' goal congruence strengthened the relationship between organizational-level HPWS and employee experienced HPWS, such that the relationship was significant and positive when line managers' goal congruence was high, but a nonsignificant relationship when line managers' goal congruence was low. Moreover, employee experienced HPWS indirectly affected job performance and job satisfaction through the mechanism of OBSE beyond social exchange perspective.

**Keywords:** high-performance work systems; organization-based self-esteem; line managers' goal congruence; job performance; job satisfaction

## Introduction

Research on strategic human resource management (SHRM) has suggested that high-performance work systems (HPWS) enable firms to become more effective and gain core competitive advantage (Bowen and Ostroff, 2004; Liao et al., 2009; Takeuchi et al., 2007). HPWS are defined as a group of internally coherent and consistent HR practices that are designed to promote employee competence, motivation, as well as commitment (Datta et al., 2005).

The content approach of HPWS posits that HPWS are associated with enhanced subjective and objective performance (Aryee et al., 2012; Guthrie, 2001; Sun et al., 2007) as HPWS encompass related HR practices that can improve employee knowledge, skills, and motivations (Piening et al., 2014; Sanders et al., 2014). Many empirical studies have also found that HPWS are linked to various desirable outcomes, such as better job performance, creativity, and innovation (Chang et al., 2014; Costantini et al., 2017; Jiang et al., 2013), more organizational citizenship behavior (Kehoe and Wright, 2013), greater organizational commitment and job satisfaction (Korff et al., 2017; Messersmith et al., 2011), higher organizational performance, and lower employee turnover rates (Huselid, 1995; Jiang et al., 2012; Sun et al., 2007). However, some researchers have also challenged the validity of these findings. For instance, Wright et al. (2005) reported that the positive effect of HPWS on firms' future operational and financial performance disappears when controlling for past or concurrent performance. Combs et al. (2006) conducted a meta-analysis of 92 studies and discovered only a moderate relationship between HPWS and organizational performance ( $r = 0.20$ ). To clarify these inconclusive arguments and findings, scholars have advocated the process perspective of HPWS. This view argues that excellent HR systems designed by organizations may not suffice to positively affect employee

1 performance if such systems can't be perceived, understood, and accepted by  
 2 employees (Katou et al., 2014; Sanders et al., 2014). A crucial reason why employees  
 3 lack accurate perceptions and understanding of HPWS is that their line managers fail  
 4 to effectively implement HR practices. Therefore, *it is imperative to explore whether*  
 5 *HPWS that firms design are consistent with employee perceived HPWS and how to*  
 6 *reduce this difference.*

7 Although previous research has almost exclusively focused on organizational  
 8 -level HPWS, an emerging stream of work has suggested that organizational-level HR  
 9 practices may not be applied uniformly across employee groups (Aryee et al., 2012;  
 10 Liao et al., 2009). That is, a possible disconnection can exist between  
 11 organizational-level HPWS and employee experienced HPWS. Organizational-level  
 12 HPWS refer to HR systems that firms develop and implement, not only on paper (Den  
 13 Hartog et al., 2013), but also to manage employees and redesign work systems.  
 14 Organizational-level HPWS reflect the goals and intentions of organizations as they  
 15 involve the decisions about how organizations manage their employees (Den Hartog  
 16 et al., 2013). This inconsistency will lead employees to inaccurately understand the  
 17 goals of organizations and to engage in behaviors that deviate from the strategic  
 18 intentions of organizations. Therefore, it is critical to explore the causes of this  
 19 misalignment. However, few studies have identified factors that narrow the gap  
 20 between organizational-level and employee experienced HPWS. As Nishii and Wright  
 21 (2008) suggested, "work group leaders likely implement HR policies quite differently,  
 22 yet we know little as to what might explain the result from such differences" (p. 239).  
 23 Line managers undertake more HR responsibilities (e.g., recruitment, training,  
 24 performance appraisal, and promotion) today than in the past (Jiang, 2013; Kuvaas et  
 25 al., 2014). Line managers may acquire HPWS information from HR departments and

1 implement and convey HR practices to employees. As a result, line managers play a  
2 vital role in implementing HPWS (Bos-Nehles et al., 2013; Pak and Kim, in press;  
3 Sikora et al., 2015). Research has also argued that line managers are increasingly  
4 recognized as the agents of organizations to enforce HR practices in their groups (e.g.,  
5 Kulik and Bainbridge, 2006; Purcell and Hutchinson, 2007). Furthermore, Sanders et  
6 al. (2014) called for research to investigate the roles of line managers in transferring  
7 HR information from the top down. Thus, we propose the relationship between  
8 organizational-level HPWS and employee experienced HPWS may be contingent  
9 upon line managers' characteristics (i.e., goal congruence with their organizations).

10 To better elucidate the impacts of employee experienced HPWS on individual  
11 outcomes, research has predominantly drawn from social exchange theory to explicate  
12 the underlying mechanism in the HPWS literature (Kehoe and Collins, 2017;  
13 Messersmith et al., 2011; Takeuchi et al., 2007). Social exchange theory suggests that  
14 when employees receive benefits from the organization, they are likely to reciprocate  
15 with their behaviors and attitudes valued by the organization (Blau, 1964). HPWS  
16 including HR practices such as training, developmental performance management,  
17 and compensation reflect organizations' investment in employees (Liao et al., 2009).  
18 Consequently, when firms offer HPWS to employees, employees would reciprocate  
19 by demonstrating positive behaviors and attitudes such as job performance, job  
20 satisfaction, as well as organizational commitment (Kehoe and Wright, 2013; Korff et  
21 al., 2017; Messersmith et al., 2011). The focus of the social exchange perspective is  
22 that HPWS help to form long-term employee-employer exchange relationship. In  
23 addition to exchanging important resources, employment relationship may carry more  
24 meanings for employees because work is a medium through which employees can not  
25 only get economic and social resources, but also gain esteem and the sense of personal

1 accomplishment (Liu et al., 2013). Hence, we further argue that the effects of HPWS  
 2 are not just about reciprocation (i.e., social exchange), but also crucially about  
 3 influencing self-worth perceptions. However, this perspective has been neglected in  
 4 the HPWS research. Organization-based self-esteem (OBSE) refers to the  
 5 self-perceived value that individuals have of themselves as organization members  
 6 acting within an organizational context (Pierce et al., 1989). We suggest that when  
 7 HPWS are granted, employees would feel that organizations value them. This granted  
 8 HPWS may foster employee OBSE. Thus, our study is rooted in self-concept-based  
 9 theory (Chan et al., 2013; Shamir et al., 1993) to theorize how OBSE bridges the  
 10 relationships between employee experienced HPWS and job performance and job  
 11 satisfaction by establishing its incremental validity over the social exchange approach.

12 Overall, our study contributes to the HPWS literature by hypothesizing and  
 13 testing how line managers' goal congruence narrows the gap between  
 14 organizational-level HPWS and employee experienced HPWS. Furthermore, drawing  
 15 from self-concept-based theory, we theorize and examine OBSE as an additional  
 16 explanatory mechanism in the relationships between employee experienced HPWS  
 17 and job performance and job satisfaction beyond social exchange perspective.

18

## 19 **Theoretical Overview and Hypotheses Development**

### 20 **Organizational-Level High-Performance Work Systems and Employee** 21 **Experienced High-Performance Work Systems**

22 In this study, we focus on HPWS including comprehensive recruitment, rigorous  
 23 selection, extensive training, developmental performance management,  
 24 performance-based compensation, flexible job design, participative decision-making,  
 25 and information sharing. All of these dimensions have been used in the prior HPWS



1 literature (Jiang, 2013; Sun et al., 2007). Previous research has theorized and  
 2 proposed the conceptualization of HPWS primarily based on the system view because  
 3 HPWS can create mutually reinforcing, synergistic effects (Rabl et al., 2014). Thus,  
 4 the rationale underlying the HPWS research is that the synergistic effects of HPWS  
 5 are stronger than the sum of the effects of the individual ones (Aryee et al., 2012;  
 6 Subramony, 2009). Hence, we analyze HPWS in line with dominant views postulating  
 7 that HR practices should be regarded as synergetic.

8       At the start of SHRM research, HPWS were identified at the organizational level,  
 9 assessed by general managers and HR managers (Chang et al., 2014; Sun et al., 2007).  
 10 Now, some researchers pay attention to the employee perceived HPWS because HR  
 11 practices of organizations are likely to have salutary effects on employees' attitudes  
 12 and behaviors only when they are perceived, understood, and accepted by employees  
 13 (Boon and Kalshoven, 2014; Kehoe and Wright, 2013; Piening et al., 2013). However,  
 14 research has suggested that the misalignment between organizational-level HPWS and  
 15 employee experienced HPWS may occur. For instance, Liao et al. (2009) showed a  
 16 nonsignificant relationship between manager-rated HPWS and employee perceived  
 17 HPWS. Nishii and Wright (2008) proposed that designed HR practices would not be  
 18 necessarily implemented in organizations, which results in inaccurate employee  
 19 perceptions and poor understanding of HPWS. Aryee et al. (2012) and Den Hartog et  
 20 al. (2013) indicated that branch-level HPWS positively relate to employee  
 21 experienced HPWS. As a consequence, it is of great significance to examine the  
 22 factors that enhance the alignment of organizational-level HPWS with employee  
 23 experienced HPWS.

24       Social information processing theory provides a theoretical explanation for the  
 25 relationship between organizational-level HPWS and employee experienced HPWS.

1 This theory postulates that employees tend to use information collected from social  
 2 environment to guide their perceptions, attitudes, and behaviors (Salancik and Pfeffer,  
 3 1978). Organizational-level HPWS offer the contextual cues for employees to shape  
 4 their perceptions of HR practices. However, the argument that organizational-level  
 5 HPWS relate to employee perceived HPWS implicitly assumes that line managers  
 6 should effectively implement HPWS espoused by the organization and transmit HR  
 7 information to employees. Line managers, as the immediate and the most important  
 8 social context of employees, play a critical role in shaping employee experienced  
 9 HPWS (Pak and Kim, in press; Sikora et al., 2015). Thus, we propose line managers'  
 10 goal congruence as a moderator elucidating when organizational-level HPWS affect  
 11 employee experienced HPWS. [Line managers' goal congruence refers to the extent to](#)  
 12 [which line managers' personal goals are consistent with organizational goals \(Ozcelik,](#)  
 13 [2013; Vancouver and Schmitt, 1991\).](#)

#### 14 **The Moderating Effect of Line Managers' Goal Congruence**

15 Previous studies have suggested that perceived goal congruence may have  
 16 positive effects on individual attitudes and behaviors, such as job satisfaction,  
 17 organizational commitment, job performance, and job engagement (Bouckenoghe et  
 18 al., 2015; Kristof-Brown and Stevens, 2001; Vancouver and Schmitt, 1991).

19 The congruence of line manager-organization goal implies that there are no  
 20 agency conflicts that may exist between line managers' personal interests and those of  
 21 their organizations. [In other words, when line managers' goals are in line with the](#)  
 22 [organization's goals, mutually beneficial outcomes are likely to occur \(Ozcelik, 2013\).](#)  
 23 In addition, the implementation of HPWS is an effective way to reach organizational  
 24 goals (Becker and Gerhart, 1996). Consequently, when line managers' personal goals  
 25 are consistent with those of their organizations, they may be devoted to implementing

1 HPWS (De Clercq et al., 2014; Kristof-Brown and Stevens, 2001). Furthermore, when  
 2 employees have any questions about HPWS, line managers with high goal congruence  
 3 may communicate with them more effectively. Hence, the discrepancy between  
 4 organizational-level HPWS and employee experienced HPWS is likely to be  
 5 diminished for employees working with line managers with high goal congruence  
 6 because they are able to effectively implement HPWS and deliver HR information to  
 7 employees.

8 Conversely, low level of goal congruence creates goal conflicts between line  
 9 managers and their organizations. Hence, line managers with low goal congruence are  
 10 likely to weigh priorities between personal interests and organizational goals. Existing  
 11 research revealed that employees who experience goal conflicts with their supervisors  
 12 may invest less effort to achieve organizational goals, and engage instead in behaviors  
 13 that harm the organizations (De Clercq et al., 2014). In other words, line managers  
 14 with low goal congruence may perfunctorily implement HPWS, and in turn accrue the  
 15 disconnection between organizational-level HPWS and employee experienced HPWS.  
 16 Based on above arguments, we hypothesize:

17 *Hypothesis 1:* Line managers' goal congruence moderates the relationship  
 18 between organizational-level HPWS and employee experienced HPWS, such that the  
 19 relationship is stronger when line managers' goal congruence is high than when line  
 20 managers' goal congruence is low.

## 21 **Employee Experienced High-Performance Work Systems, Organization-Based** 22 **Self-Esteem, and Individual Outcomes**

23 In addition to the extant research that focused on social exchange as a mediator  
 24 of the relationship between HPWS and establishment performance (Takeuchi et al.,  
 25 2007), we introduce employee OBSE as an explanatory mechanism in the

relationships between employee experienced HPWS and job performance and job satisfaction. OBSE refers to the self-perceived value that individuals have of themselves as organization members acting within an organizational context (Pierce et al., 1989). Global self-esteem is not limited to a specific realm (Ceschi et al., 2017; Pierce and Gardner, 2004). OBSE is developed based on global self-esteem and represents individual self-esteem in the organizational context. Our study focuses on OBSE rather than global self-esteem because previous work has found that OBSE has stronger predictive power for organization-related construct (Chan et al., 2013; Pierce et al., 1989). Scholars have identified that OBSE is subject to some contextual and individual enablers, such as perceived organizational support, organizational justice, delegation, leader-member exchange, self-efficacy, and internal locus of control (Chen and Aryee, 2007; Ferris et al., 2009; Lee and Peccei, 2007; Liu et al., 2013; McAllister and Bigley, 2002; Pierce and Gardner, 2004). Prior research has also found that OBSE is linked to several individual outcomes, such as enhanced job performance and organizational citizenship behavior, increased affective commitment and job satisfaction (Bowling et al., 2010; Chen and Aryee, 2007; Pierce and Gardner, 2004; Sun et al., 2014).

Self-concept-based theory helps to explain how employee experienced HPWS contribute to employee job performance and job satisfaction through the mediating role of OBSE (Shamir et al., 1993). This theory postulates that employees who interact with a significant other may internalize significant other's evaluation for them to form their self-concept (Chan et al., 2013; Shamir et al., 1993). The organization as employees' significant other, may greatly affect employee self-evaluation. More specifically, HPWS including HR practices such as training and development reflect organizational investment in employees (Liao et al., 2009; Takeuchi et al., 2007),

1 which makes employees perceive that organizations consider them to be important  
 2 and valued. Furthermore, HR practices such as performance-based compensation and  
 3 developmental performance management demonstrate organizational recognition and  
 4 consideration for employee contributions (Liao et al., 2009). Flexible job design  
 5 enables employees to perceive that they can control their work and decide how to do  
 6 and what to do, which represents organizational trust and appreciation for employees  
 7 (Takeuchi et al., 2007). Participative decision-making shows organizational respect  
 8 for employees' suggestions (Liao et al., 2009). The incorporation of such positive  
 9 messages (e.g., organizational recognition, trust, and respect) into the employee's  
 10 self-concept promotes employee OBSE (Chen and Aryee, 2007). Overall, we  
 11 postulate that HPWS positively predict employee OBSE.

12 We further argue that OBSE will lead to better job performance and job  
 13 satisfaction. The extant study has adopted self-concept-based theory to illuminate how  
 14 OBSE affects its presumed outcomes (Chan et al., 2013; Shamir et al., 1993). This  
 15 theory advocates that individuals are prone to maintain self-consistency, and  
 16 motivating them to act in a manner that reinforces their self-concept (Shamir et al.,  
 17 1993). Employees with high OBSE perceive that they are able, valued, and  
 18 meaningful. According to self-concept-based theory, these employees are likely to  
 19 exhibit positive behaviors and attitudes (e.g., job performance, job satisfaction) to  
 20 strive for self-consistency. Many empirical studies have also revealed the positive  
 21 relationships between OBSE and job performance and job satisfaction (Chen and  
 22 Aryee, 2007; Liu et al., 2013; Pierce et al., 1989). Thus, we predict:

23 *Hypothesis 2a:* OBSE mediates the relationship between employee experienced  
 24 HPWS and employee job performance.

25 *Hypothesis 2b:* OBSE mediates the relationship between employee experienced

1 HPWS and employee job satisfaction.

2 Combined with Hypothesis 1 that states the joint effect of organizational-level  
3 HPWS and line managers' goal congruence on employee experienced HPWS, we  
4 propose a serial mediated moderation model in which employee experienced HPWS  
5 and OBSE sequentially mediate the impacts of the interaction between  
6 organizational-level HPWS and line managers' goal congruence on employee job  
7 performance and job satisfaction. Thus, we posit the following:

8 *Hypothesis 3a:* The interaction between organizational-level HPWS and line  
9 managers' goal congruence indirectly affects employee job performance sequentially  
10 through employee experienced HPWS and OBSE.

11 *Hypothesis 3b:* The interaction between organizational-level HPWS and line  
12 managers' goal congruence indirectly affects employee job satisfaction sequentially  
13 through employee experienced HPWS and OBSE.

14 In summary, the research model is presented in Figure 1.

15 -----  
16 FIGURE 1 ABOUT HERE  
17 -----

## 19 **Methods**

### 20 **Sample and Procedures**

21 Our data were collected from 21 companies located in the People's Republic of  
22 China. The participating organizations belonged to the software development,  
23 manufacturing, and electric power generation industries. To control for common  
24 method bias, questionnaires were developed and administrated to employees, line  
25 managers, and HR executives. A cover letter attached to each questionnaire explained  
26 that participation was voluntary, and that the purposes of the survey were only for

research, and that the confidentiality of their responses was assured. Employees completed a survey including items tapping employee experienced HPWS, OBSE, job satisfaction, and social exchange. Line managers provided the assessment of job performance for their subordinates and their goal congruence with organizations. Furthermore, HR executives rated HPWS that the firms implemented. Prior to collecting the study data, we contacted HR executives in each company and asked them to randomly pick the departments in the firm. The research team consulted with HR executives in each company to randomly select 3 to 10 employees from each participating department and invited them to complete the survey. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards with written informed consent from all subjects. This research was approved by the Human Research Ethics Committee (HREC) at College of Economics and Management, Huazhong Agricultural University.

A total of 476 employees, 93 line managers, and 21 HR executives were invited to participate in the survey. We used a matched code to identify each employee's response and that of the corresponding supervisor. We received responses from 427 employees, 84 line managers, and 21 HR executives, with a response rate of 89.71% for employees, 90.32% for line managers, and 100% for HR executives. After matching their responses, we obtained a final sample included 397 employees, 84 line managers, and 21 HR executives. Among 397 employees, about half of participants were male (52.90%); 81.61% had received college or undergraduate degrees, 5.54% had earned postgraduate degrees; their average age was 29.37 years old ( $SD = 5.91$ ); their average tenure in the organization was 4.72 years ( $SD = 4.71$ ). Among 21 firms,

1 the average age of these firms was 16.53 years ( $SD = 17.13$ ). The number of  
 2 employees in most firms was less than 500 (61.90%).

### 3 **Measures**

4 All of the original scales were developed in English and were presented in  
 5 Chinese. To ensure the validity and reliability of scales, we used back-translation  
 6 procedures.

7 **High-performance work systems.** We adopted Jiang's (2013) 18-item HPWS  
 8 scale developed in the Chinese context (see Appendix). This scale measured HPWS  
 9 using eight HR practices mentioned above: recruitment, selection, training,  
 10 developmental performance management, performance-based compensation, flexible  
 11 job design, participative decision-making, and information sharing.  
 12 Organizational-level HPWS and employee experienced HPWS have different referent  
 13 points. Hence, we modified the referents of organizational-level and employee  
 14 experienced HPWS as "the employees of company" and "me", respectively. HR  
 15 executives and employees were requested to report organizational-level HPWS and  
 16 employee experienced HPWS, respectively. A 5-point Likert scale ranging from 1  
 17 (strongly disagree) to 5 (strongly agree) was used. Following the prior literature  
 18 (Aryee et al., 2012; Chang et al., 2014; Liao et al., 2009; Messersmith et al., 2011),  
 19 we used an additive approach to operationalizing HPWS by calculating the mean  
 20 scores of all HR practices. The Cronbach's alpha for organizational-level HPWS and  
 21 employee experienced HPWS scale were 0.87 and 0.94, respectively.

22 To ensure that the additive approach captured the concept better than other  
 23 possible approaches (see Chadwick, 2010; Chang et al., 2014), we categorized the 18  
 24 items used to measure employee experienced HPWS into three bundles based on the



1 AMO (ability-motivation-opportunity) framework (Appelbaum et al., 2000).<sup>1</sup>  
 2 Subsequently, we constructed interaction terms among the three bundles. Results  
 3 showed that all of the two-way interactions or the three-way interaction was not  
 4 significantly related to job performance and job satisfaction. These results indicated  
 5 that adopting the additive approach to conceptualize HPWS was appropriate for the  
 6 current study.<sup>2</sup>

7 **Job performance.** We measured job performance using 4 items from Chen's et  
 8 al. (2002) scale. This scale was evaluated by line managers based on a 7-point  
 9 response scale ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item  
 10 is "Always completes job assignments on time." The coefficient alpha for the scale  
 11 was 0.90.

12 **Job satisfaction.** Job satisfaction was measured with a three-item scale from  
 13 Erdogan and Bauer (2010). This scale was assessed by employees using a 5-point  
 14 Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A sample item is  
 15 "All in all, I am satisfied with my job." The coefficient alpha for the scale was 0.92.

16 **OBSE.** Ten items adopted from Pierce et al. (1989) were used to measure OBSE.  
 17 This scale was reported by employees using a 5-point response scale ranging from 1  
 18 (strongly disagree) to 5 (strongly agree). A sample item is "I am helpful around here."  
 19 The Cronbach's alpha coefficient was 0.92.

20 **Line managers' goal congruence.** We used a three-item measure developed by  
 21 Ozcelik (2013) to assess line managers' goal congruence (1= strongly disagree, 5=

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<sup>1</sup> Scholars have drawn upon the AMO (ability-motivation-opportunity) framework of HRM to decompose HPWS into three components: ability-enhancing HR practices, motivation-enhancing HR practices, and opportunity-enhancing HR practices. Ability-enhancing HR practices include recruitment, selection, and training. Developmental performance management and performance-based compensation act as motivation-enhancing HR practices. Flexible job design, participative decision-making, and information sharing are important components of opportunity-enhancing HR practices (Jiang et al., 2012).

<sup>2</sup> We thank the anonymous reviewer for this suggestion.

strongly agree). A sample item is “My goals match or fit the goals of this organization and its current employees.” The Cronbach’s alpha coefficient was 0.86.

**Control variables.** In addition to employee demographic variables such as gender, age, education level, and organizational tenure, we also controlled for firm age and firm size. Research has shown that larger firms may be more likely to use better developed HR practices and may facilitate employee performance (Sun et al., 2007). Firm age was included as a control variable because firm age was involved with evolution or adoption of HR practices and learning curve advantages in performance (Guthrie, 2001).<sup>3</sup> Moreover, previous study has suggested that social exchange mediates the effects of HPWS (Takeuchi et al., 2007). Therefore, we controlled for social exchange. We measured this variable using an eight-item scale developed by Shore et al. (2006). This scale was rated by employees using a 5-point Likert scale (from 1=strongly disagree to 5=strongly agree). A sample item is “My organization has made a significant investment in me.” The Cronbach’s alpha for this scale was 0.76.

### **Analytical Approach**

The present data have a nested structure as employees are nested in groups, and groups are nested in firms. Thus, we adopted Hierarchical Linear Modeling 3 (HLM3) with HLM software to test our proposed hypotheses. To justify that HLM 3 is appropriate for analyzing three-level data, we ran null models with employee experienced HPWS, OBSE, job performance, and job satisfaction as the dependent variables, respectively. The results showed that the within-group, between-group, and between-firm variance of employee experienced HPWS were 0.32, 0.21, and 0.11, respectively.  $ICC(1)_{firm}$  was 0.17, indicating 17% of variance residing in

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<sup>3</sup> Learning curve shows a non-linear relationship in which the performance enhances with practices (Trappey et al., 2016). In addition to task proficiency, the improvement of management techniques, extensive training, rewards, and benefits are also key determinants of learning curve.

1 between-firms in employee experienced HPWS. As such,  $ICC(1)_{firm}$  for OBSE, job  
 2 performance, and job satisfaction were 8.33%, 9.16%, and 7.38%, respectively. The  
 3 results corroborate that HLM 3 should be applied to examine the multilevel  
 4 hypotheses.

5 Hypothesis 1 was to test cross-level interaction effect between  
 6 organizational-level HPWS and line managers' goal congruence in relation to  
 7 employee experienced HPWS. According to Hofmann and Gavin (1998), we used the  
 8 group means centering approach for line managers' goal congruence and added group  
 9 means of line managers' goal congruence, and the interaction term between  
 10 organizational-level HPWS and group mean of line managers' goal congruence when  
 11 assessing cross-level interaction effect.

12 Our model involves testing the serial indirect effects of the interaction between  
 13 organizational-level HPWS and line managers' goal congruence on employee job  
 14 performance and job satisfaction sequentially through employee experienced HPWS  
 15 and OBSE (Hypothesis 3a and 3b). As Preacher and Selig (2012) and Zhang et al.  
 16 (2014) suggested, we utilized a parametric bootstrap procedure written in R software  
 17 to estimate bias-corrected confidence intervals for these serial indirect effects based  
 18 on 20,000 Monte Carlo re-samples.

19

## 20 **Results**

### 21 **Confirmatory Factor Analyses**

22 We conducted confirmatory factor analyses (CFAs) to test the discriminant  
 23 validity of individual-level variables included in our study: employee experienced  
 24 HPWS, OBSE, social exchange, job performance, as well as job satisfaction.  
 25 According to Little et al. (2002), we adopted the first-order dimensions of employee

experienced HPWS as the indicators of their respective latent variables to construct eight parcels. Furthermore, as recommended by Bagozzi and Edwards (1998) (see also Lam's et al. (2015) empirical study), we formed five parcels of items as indicators for OBSE by averaging the items with the highest and lowest loading.

Table 1 shows the results of CFAs. Results demonstrated that our hypothesized five-factor model fit data better ( $\chi^2_{(340)} = 1020.45$ , RMSEA= 0.07, TLI= 0.91, CFI = 0.92) than four-factor model 1 ( $\Delta\chi^2_{(4)} = 623.1$ ,  $p < 0.001$ , RMSEA= 0.10, TLI= 0.82, CFI = 0.84), four-factor model 2 ( $\Delta\chi^2_{(4)} = 920.85$ ,  $p < 0.001$ , RMSEA= 0.11, TLI= 0.78, CFI = 0.80), two-factor model ( $\Delta\chi^2_{(9)} = 2115.59$ ,  $p < 0.001$ , RMSEA= 0.14, TLI= 0.63, CFI = 0.65), and one-factor model ( $\Delta\chi^2_{(10)} = 2807.75$ ,  $p < 0.001$ , RMSEA= 0.16, TLI= 0.53, CFI = 0.57). These results provided support for the distinctiveness of five variables.

TABLE 1 ABOUT HERE

### Descriptive Statistics

Table 2 presents the means, standard deviations, and correlations for all study variables. Employee experienced HPWS were positively associated with OBSE ( $r = 0.48$ ,  $p < 0.001$ ), job performance ( $r = 0.29$ ,  $p < 0.001$ ), and job satisfaction ( $r = 0.61$ ,  $p < 0.001$ ). OBSE was positively related to job performance ( $r = 0.22$ ,  $p < 0.001$ ) and job satisfaction ( $r = 0.44$ ,  $p < 0.001$ ).

TABLE 2 ABOUT HERE

### Hypotheses Testing

Table 3 displays the results of the HLM analyses. Hypotheses 1 proposed the cross-level interaction effect of organizational-level HPWS and line managers' goal

congruence on employee experienced HPWS. In Model 9 we added gender, age, education level, and tenure at Level 1 and firm size and firm age at Level 3 as control variables and added organizational-level HPWS as a Level 3 predictor.<sup>4</sup> The results of Model 9 in Table 3 showed that the effect of organizational-level HPWS on employee experienced HPWS was marginally significant (Model 9,  $\gamma = 0.104$ ,  $p < 0.1$ ). Results for testing Hypothesis 1 are shown in Model 10, the cross-level interaction between organizational-level HPWS and line managers' goal congruence was positively related to employee experienced HPWS (Model 10,  $\gamma = 0.11$ ,  $p < 0.05$ ), controlling for group means of line managers' goal congruence, and the interaction term between organizational-level HPWS and group mean of line managers' goal congruence as level 3 predictors.

TABLE 3 ABOUT HERE

To depict the moderating effect of line managers' goal congruence, we plotted this moderating effect and calculated the simple slopes adopting Aiken and West's (1991) procedure. Figure 2 showed that there was a significant and positive relationship (*simple slope* = 0.17,  $p < 0.05$ ) between organizational-level HPWS and employee experienced HPWS when line managers' goal congruence was high (1 *SD* above mean), but a nonsignificant relationship (*simple slope* = -0.01, *ns*) when line managers' goal congruence was low (1 *SD* below mean). Thus, Hypothesis 1 was supported.

FIGURE TWO ABOUT HERE

<sup>4</sup> We thank the anonymous reviewer for this suggestion. Table 2 reported that the correlation coefficient between age and tenure was 0.71, which might cause collinearity issues and make part of the estimation statistically inaccurate. We found essentially the same patterns of results for our hypothesized relationships when controlling for age or tenure, or both.

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Hypothesis 2a and 2b suggested that OBSE would mediate the effects of employee experienced HPWS on job performance and job satisfaction. We first ran Model 1 and Model 4 with job performance and job satisfaction as the dependent variables, respectively. We added control variables and employee experienced HPWS in these two models. Table 3 showed that employee experienced HPWS positively predicted job performance (Model 1,  $\gamma = 0.20$ ,  $p < 0.05$ ) and job satisfaction (Model 4,  $\gamma = 0.67$ ,  $p < 0.001$ ). Model 7 indicated that employee experienced HPWS were positively related to OBSE (Model 7,  $\gamma = 0.41$ ,  $p < 0.001$ ). Next, in Model 2 and Model 5 we simultaneously added control variables, employee experienced HPWS, OBSE, and social exchange. Results demonstrated that OBSE was associated with higher job performance (Model 2,  $\gamma = 0.11$ ,  $p < 0.05$ ) and greater job satisfaction (Model 5,  $\gamma = 0.15$ ,  $p < 0.05$ ). Meanwhile, the effects of employee experienced HPWS on two individual outcomes (for job performance,  $\gamma = 0.09$ ,  $ns$ ; for job satisfaction,  $\gamma = 0.32$ ,  $p < 0.001$ ) became weaker than Model 1 and Model 4. Hence, Hypothesis 2a and 2b were supported.

In order to further test the significance of these indirect effects, we used a parametric bootstrap procedure recommended by Preacher and Selig (2012). Results revealed that the indirect effects of employee experienced HPWS on job performance (indirect effect = 0.045, 95% CI= [0.005, 0.087]) and job satisfaction (indirect effect = 0.062, 95% CI= [0.014, 0.113]) via OBSE were significant. Thus, Hypothesis 2a and 2b received further support.

Hypothesis 3a and 3b expected the serial indirect effects from the interaction between organizational-level HPWS and line managers' goal congruence to employee experienced HPWS to OBSE and finally to job performance and job satisfaction. The examination of these serial indirect effects consisted of the product of the paths: (1)

1 from the interaction term (organizational-level HPWS  $\times$  line managers' goal  
 2 congruence) to employee experienced HPWS (Model 10,  $\gamma = 0.11$ ,  $p < 0.05$ ), (2) from  
 3 employee experienced HPWS to OBSE (Model 8,  $\gamma = 0.39$ ,  $p < 0.001$ ), (3) from  
 4 OBSE to job performance (Model 3,  $\gamma = 0.12$ ,  $p < 0.05$ ) and job satisfaction (Model 6,  
 5  $\gamma = 0.15$ ,  $p < 0.05$ ). We again adopted the parametric bootstrap procedure to test the  
 6 significance of the serial indirect effects. Results showed that the indirect effects of  
 7 the interaction between organizational-level HPWS and line managers' goal  
 8 congruence on job performance (indirect effect = 0.005, 95% CI= [0.0001, 0.013])  
 9 and job satisfaction (indirect effect = 0.006, 95% CI= [0.0002, 0.016]) through  
 10 employee experienced HPWS and OBSE were significant and positive. Hence,  
 11 Hypothesis 3a and 3b were supported.

## 13 Discussion

14 Research has argued that a possible disconnection between organizational-level  
 15 HPWS and employee experienced HPWS can occur (Liao et al., 2009; Nishii and  
 16 Wright, 2008). However, few studies have examined how to align both. Our study  
 17 extends the HPWS literature by [testing how](#) line managers' goal congruence acts as a  
 18 moderator in this relationship. Furthermore, we theorized and examined the mediating  
 19 role of OBSE in the associations between employee experienced HPWS and job  
 20 performance and job satisfaction (Chan et al., 2013; Pierce et al., 1989). Results  
 21 demonstrated that line managers' goal congruence strengthened the relationship  
 22 between organizational-level HPWS and employee experienced HPWS, such that the  
 23 relationship was significant and positive when line managers' goal congruence was  
 24 high, but a nonsignificant relationship when line managers' goal congruence was low.  
 25 In addition, employee experienced HPWS were related to job performance and job

satisfaction, in part due to OBSE beyond social exchange. Ultimately, the interaction between organizational-level HPWS and line managers' goal congruence indirectly affected employee job performance and job satisfaction sequentially through employee experienced HPWS and OBSE.

### **Theoretical and Practical Implications**

The study makes theoretical contributions in several ways. First, by examining the moderating role of line managers' goal congruence, this research explores a boundary condition under which HPWS enacted by the organization are aligned with employee experienced HPWS, and addresses the inconclusive arguments and findings of this relationship. Prior research has found that a potential inconsistency between organizational-level HPWS and employee experienced HPWS may occur (Liao et al., 2009; Nishii and Wright, 2008). However, less study has investigated the factors that are implied within such a relationship. We hypothesized and indeed found that the influence of organizational-level HPWS on employee experienced HPWS depends on line managers' goal congruence. Organizational-level HPWS and employee experienced HPWS became more aligned when line managers' goal congruence was higher. Additionally, Liao et al. (2009) reported substantial variance in employee experienced HPWS at the within-group and between-group. Nishii and Wright (2008) argued that it is imperative to explore group-level factors that maximize the relationship between HR practices and performance. In the present research, we suggest that the impacts of organizational-level HR systems on individual outcomes are contingent on the variability in group-level factors such as line managers' goal congruence, responding to the calls proposed in previous multilevel SHRM research.

Furthermore, our work also extends existing research that focused either on HPWS content or on the HPWS implementation process (Aryee et al., 2012; Bowen



and Ostroff, 2004; Liao et al., 2009). In the current study, firm-level and employee perceived HPWS represent content and line managers' goal congruence reflects implementation process. Line managers whose goals are consistent with those of their organizations will effectively implement HPWS content. Our findings suggest that it is critical to take both content and implementation process into account.

Moreover, our research sheds light on the mediating mechanism through which employee experienced HPWS facilitate job performance and job satisfaction. Scholars have suggested that future study should be from different approaches to better unlock the process by which HPWS foster employee desirable behaviors and attitudes (Jiang et al., 2013). Previous research has mainly been based on social exchange theory to explore the underlying mechanism of HPWS (Kehoe and Wright, 2013; Messersmith et al., 2011; Takeuchi et al., 2007). However, this mediating relationship fails to fully capture the role of OBSE. While existing work has tested how social exchange mediates the influences of HPWS (Takeuchi et al., 2007), our findings show that OBSE is a crucial mediator in this process as well.

In addition, this study also contributes to the OBSE literature. Prior research has indicated that OBSE is a result of contextual factors and individual characteristics, such as perceived organizational support, organizational justice, delegation, self-efficacy, and internal locus of control (Chen and Aryee, 2007; Ferris et al., 2009; McAllister and Bigley, 2002; Pierce and Gardner, 2004). To date, there has been limited knowledge about whether HPWS can result in OBSE. Our findings suggest that employee perceived HPWS foster OBSE. The impact of HPWS on OBSE that we uncovered, adds to the literature on the antecedents of OBSE.

Finally, this study has important management implications for organizations. We confirm that line managers' goal congruence amplifies the positive relationship

1 between organizational-level HPWS and employee experienced HPWS. Hence,  
 2 organizations may adopt some measures to foster line managers' goal congruence. For  
 3 instance, companies should take full account of the interests of managers and  
 4 employees when designing organizational strategies. Besides, Hoffman et al. (2011)  
 5 suggested that transformational leaders may be instrumental in aligning employees'  
 6 interests effectively with those of the organizations. Thus, firms should carry out the  
 7 training program of leadership skills to create a climate that embraces  
 8 transformational leadership. Additionally, equal attention should be focused on OBSE  
 9 that also contributes to employee job performance and job satisfaction. Organizations  
 10 may enhance OBSE which ensures that employees' needs to belong and to maintain  
 11 positive self-worth are satisfied.

## 12 **Study Limitations and Future Research Directions**

13 Our study has a number of limitations that should be explored in future research.  
 14 First, we collected data from multiple sources (i.e., employees, line managers, and HR  
 15 executives) which mitigated the potential impacts of common method variance on our  
 16 findings. However, the data we obtained were cross-sectional in nature that limited  
 17 our ability to make conclusions about causal inferences. Thus, future research needs  
 18 to adopt longitudinal research designs to rigorously test the hypothesized relationships  
 19 over time.

20 Second, as the study was conducted in China, the generalizability of our findings  
 21 to other cultural contexts remains an empirical question. Therefore, future research  
 22 should examine whether our findings are also applicable to other parts of the world.

23 Third, we treated HPWS as an overall configuration or aggregation of HR  
 24 practices in the current research. Such approach that has been used in prior SHRM  
 25 study did pose weakness to the current research. For example, employees may be

1 more sensitive to certain HR practices. Therefore, they are more likely to inquire the  
2 information about these HR practices and have similar perceptions to their  
3 organizations. Future research should test how the characteristics of HR practices and  
4 individual factors influence the relationship between organizational-level HPWS and  
5 employee experienced HPWS.

6 A fourth potential limitation of this study is that we rely on theoretical research  
7 and empirical evidence to guide the prediction that line managers' goal congruence  
8 moderates the relationship between organizational-level HPWS and employee  
9 experienced HPWS through facilitating line managers' implementation of HPWS.  
10 We, however, did not directly measure line managers' implementation efforts. Future  
11 research should extend this study and examine whether line managers' goal  
12 congruence promotes their implementation efforts, and which further strengthens the  
13 effect of organizational-level HPWS on employee experienced HPWS. Moreover, we  
14 only focused on line managers' goal congruence, there may be other moderators that  
15 should be examined in future study, such as organizational slack resources, the  
16 communication strategies and commitment in transferring HPWS to employees from  
17 the management.

18 Finally, our study only explored the mediating role of OBSE in the relationships  
19 between employee experienced HPWS and individual outcomes, other approaches  
20 may also be used to explain such associations, such as basic psychological needs.  
21 According to self-determination theory, individuals have three basic psychological  
22 needs that include competence, autonomy, and relatedness. The satisfaction of these  
23 three basic psychological needs may promote employees' positive behaviors and  
24 attitudes (Ryan and Deci, 2000). HPWS can improve employees' knowledge, skills,  
25 and abilities, stimulate their task motivations, and make autonomy available for

1 employees at work, hence satisfy their basic psychological needs. Consequently,  
2 future research should explore how basic psychological needs mediate the effects of  
3 HPWS.

4

## 5 **Conclusion**

6 In closing, the primary goal of this study was to examine how and when  
7 organizational-level HPWS affect employee job performance and job satisfaction.  
8 With multilevel multisource data, the results showed that line managers' goal  
9 congruence reduces the gap between organizational-level HPWS and employee  
10 experienced HPWS. We also found that employee experienced HPWS drive job  
11 performance and job satisfaction through the mechanism of OBSE beyond social  
12 exchange. Our study not only advanced new knowledge concerning how HPWS  
13 influence employee outcomes but also inspired scholars to explore additional  
14 boundary conditions and explanatory mechanisms in relation to the HPWS-individual  
15 outcomes associations.

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**TABLE 1 Comparison of factor structures**

<b>Model</b>	$\chi^2$	<i>df</i>	$\chi^2/df$	$\Delta\chi^2(\Delta df)$	RMSEA	TLI	CFI
Five-factor model	1020.45	340	3.00		0.07	0.91	0.92
Four-factor model 1	1643.55	344	4.78	623.1 <sup>***</sup> (4)	0.10	0.82	0.84
Four-factor model 2	1941.30	344	5.64	920.85 <sup>***</sup> (4)	0.11	0.78	0.80
Two-factor model	3136.04	349	8.99	2115.59 <sup>***</sup> (9)	0.14	0.63	0.65
One-factor model	3828.20	350	10.94	2807.75 <sup>***</sup> (10)	0.16	0.53	0.57

*Note.* *N*=397. RMSEA = root mean square error of approximation. TLI =Tucker-Lewis index.

CFI=comparative fit index.

Five-factor model: employee experienced HPWS, OBSE, social exchange, job performance, and job satisfaction.

Four-factor model 1: OBSE and social exchange were combined into one factor.

Four-factor model 2: employee experienced HPWS and job performance were combined into one factor.

Two-factor model: employee experienced HPWS, job performance and job satisfaction were combined into one factor; OBSE and social exchange were combined into one factor.

One-factor model: all five factors were combined into one factor.

**TABLE 2 Means, standard deviations, and correlations among study variables**

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
<b>Level 1</b>										
1. Gender	0.47	—								
2. Age	29.37	5.91	0.04							
3. Education level	2.91	0.48	0.05	-0.09						
4. Tenure	4.72	4.71	0.04	0.71***	-0.13*					
5. Social exchange	3.58	0.72	-0.03	-0.07	0.10*	-0.13*				
6. Employee experienced HPWS	3.77	0.77	-0.03	-0.06	-0.03	-0.18***	0.62***			
7. OBSE	3.41	0.69	-0.03	-0.06	0.05	-0.05	0.54***	0.48***		
8. Job performance	5.56	1.08	0.04	0.13**	0.02	0.15**	0.21***	0.29***	0.22***	
9. Job satisfaction	3.96	0.89	0.03	0.06	-0.04	-0.04	0.63***	0.61***	0.44***	0.25***
<b>Level 2</b>										
1. Goal congruence	4.09	0.84								
<b>Level 3</b>										
1. Firm size	1.43	0.60								
2. Firm age	16.53	17.13	0.05							
3. Organizational-level HPWS	4.25	0.47	-0.25	-0.18						

*Note.*  $N=397$  at Level 1,  $N=84$  at Level 2,  $N=21$  at Level 3. Gender: 0 = male, 1 =female. Education level: 1 =junior high school and below, 2 = senior high school, 3 = college or undergraduate, 4 =postgraduate and over. Firm size: 1 = less than 500, 2 =between 500 and 2000, 3 = more than 2000.

\*  $p < 0.05$ . \*\*  $p < 0.01$ . \*\*\*  $p < 0.001$ .

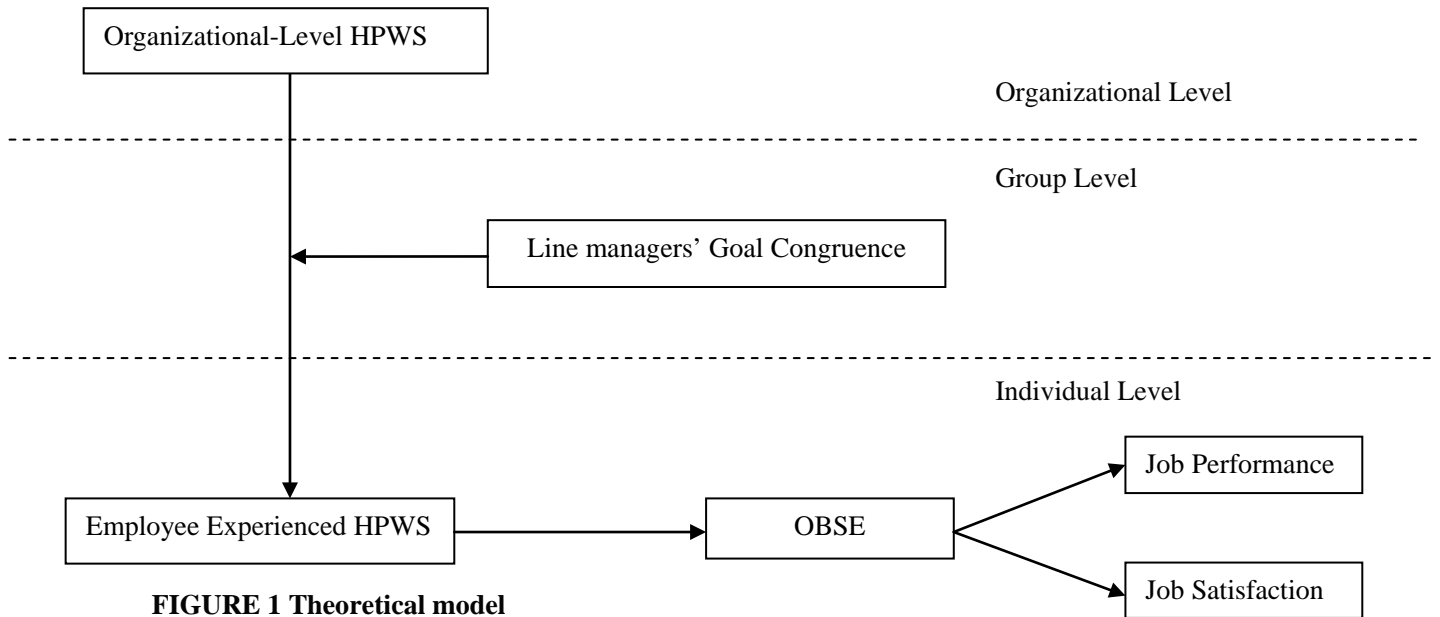
**TABLE 3 Results of HLM analyses**

Variables	Job performance			Job satisfaction			OBSE		Employee experienced HPWS	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
<b>Level 1</b>										
Intercept	5.60*** (0.09)	5.60*** (0.09)	5.59*** (0.06)	3.99*** (0.03)	3.98*** (0.04)	3.96*** (0.04)	3.39*** (0.03)	3.41*** (0.04)	3.76*** (0.07)	3.73*** (0.07)
Gender	-0.05 (0.08)	-0.04 (0.07)	-0.04 (0.07)	0.04 (0.04)	0.05 (0.05)	0.09* (0.04)	-0.074 (0.044)	-0.14* (0.05)	-0.05 (0.06)	-0.03 (0.07)
Age	0.001 (0.013)	0.001 (0.013)	-0.005 (0.013)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	-0.018 (0.01)	-0.023* (0.01)	-0.01 (0.01)	-0.015 (0.016)
Education level	0.10 (0.16)	0.09 (0.16)	0.06 (0.15)	-0.02 (0.06)	-0.01 (0.06)	-0.064* (0.024)	0.11 (0.07)	0.07 (0.08)	-0.13 (0.10)	-0.12 (0.14)
Tenure	0.015 (0.013)	0.01 (0.01)	0.01 (0.01)	-0.003 (0.012)	-0.001 (0.01)	-0.002 (0.01)	0.01 (0.01)	0.019 (0.01)	-0.003 (0.013)	0.009 (0.01)
Social exchange		0.15 (0.10)	-0.09 (0.08)		0.53*** (0.07)	0.52*** (0.08)				
Employee experienced HPWS	0.20* (0.09)	0.09 (0.09)	0.06 (0.09)	0.67*** (0.07)	0.32*** (0.08)	0.33*** (0.07)	0.41*** (0.04)	0.39*** (0.07)		
OBSE		0.11* (0.05)	0.12* (0.05)		0.15* (0.06)	0.15* (0.06)				
<b>Level 2</b>										
Goal congruence			0.50*** (0.12)					0.123 (0.059)		0.25** (0.07)
<b>Level 3</b>										
Firm size	-0.08 (0.14)	-0.04 (0.14)	0.04 (0.10)	-0.001 (0.042)	-0.03 (0.04)	-0.01 (0.03)	-0.04 (0.04)	-0.09 (0.05)	-0.22* (0.09)	-0.175* (0.081)

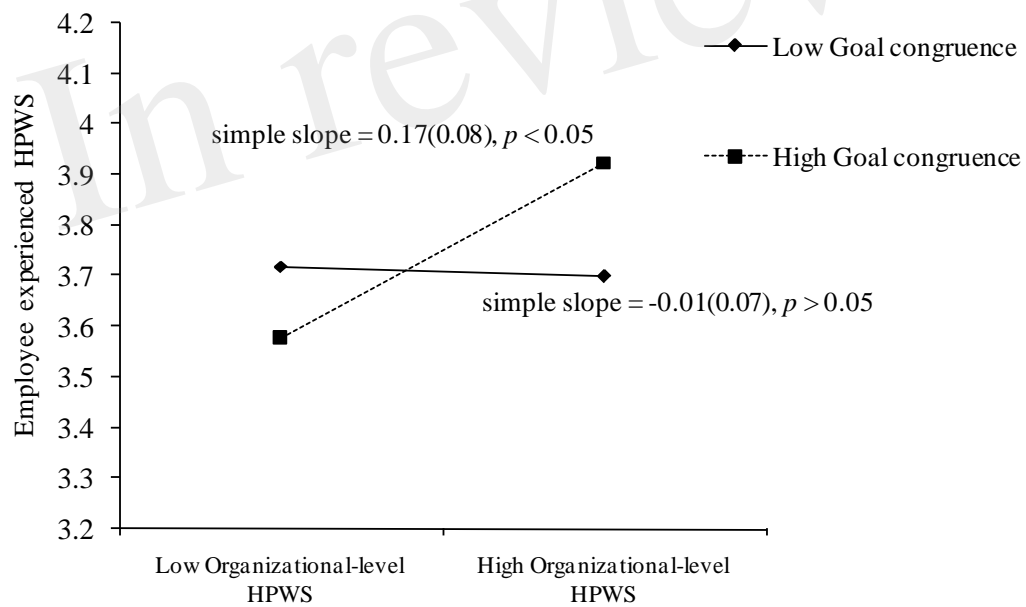


Firm age	-0.001 (0.004)	0.0001 (0.004)	0.005 (0.004)	0.006 (0.003)	0.004 (0.003)	-0.001 (0.002)	-0.006** (0.002)	-0.008* (0.003)	-0.015*** (0.003)	-0.014** (0.004)
Organizational-level HPWS			0.19*** (0.04)			0.10* (0.04)		0.03 (0.02)	0.104 (0.055)	0.082 (0.066)
Mean goal congruence			0.27* (0.10)			0.23*** (0.04)		0.121 (0.059)		-0.08 (0.10)
Organizational-level HPWS × Mean goal congruence			0.39*** (0.08)			-0.097 (0.048)		0.17* (0.06)		-0.02 (0.12)
<b>Cross-level interaction</b>										
Organizational-level HPWS × Goal congruence			0.19 (0.15)			0.01 (0.07)		0.08 (0.05)		0.11* (0.05)

*Note.*  $N=397$  at Level 1,  $N=84$  at Level 2,  $N=21$  at Level 3. Unstandardized coefficients were presented and the corresponding standard errors were reported in the parentheses. \*  $p < 0.05$ . \*\*  $p < 0.01$ . \*\*\*  $p < 0.001$ .



**FIGURE 1 Theoretical model**



**FIGURE 2 The interaction effect of organizational-level HPWS and line managers' goal congruence on employee experienced HPWS. Values in parentheses are standard errors.  $N=397$  at Level 1,  $N=84$  at Level 2,  $N=21$  at Level 3.**

## **APPENDIX**

### **Organizational-Level High-Performance Work Systems**

The following items refer to how employees are managed in your company. Please indicate the extent of your agreement or disagreement about each statement.

1. Selection emphasizes traits and abilities required for providing high quality of performance.
2. Recruitment process uses many different recruiting sources (agencies, universities, etc.).
3. Selection process is comprehensive (uses interviews, tests, etc.).
4. The company provides an orientation program for newcomers to learn about the company.
5. The company continuously provides training programs.
6. The company invests considerable time and money in training.
7. Performance appraisals provide employees feedback for personal development.
8. Performance appraisals are based on objective, quantifiable results.
9. Supervisors get together with employees to set their personal goals.
10. Employee salaries and rewards are determined by their performance.
11. The company attaches importance to the fairness of compensation/rewards.
12. Employees receive monetary or nonmonetary rewards for great effort and good performance.
13. The company considers employee off-work situations (family, school, etc.) when making schedules.
14. The company has its ways or methods to help employees alleviate work stress.
15. The company has formal grievance procedures to take care of employee complaints or appeals.
16. If a decision made might affect employees, the company asks them for opinions in advance.
17. Employees are often asked to participate in work-related decisions.
18. The company shares job-related information with employees (e.g., company operation, sales, etc.).

### **Employee Experienced High-Performance Work Systems**

The following items refer to HR practices that your company implements for you. Please indicate the extent of your agreement or disagreement about each statement.

1. Selection emphasizes traits and abilities required for providing high quality of performance.
2. Recruitment process uses many different recruiting sources (agencies, universities, etc.).
3. Selection process is comprehensive (uses interviews, tests, etc.).
4. The company provides an orientation program for me to learn about the company.
5. The company continuously provides training programs for me.
6. The company invests considerable time and money in training for me.
7. Performance appraisals provide feedback for my personal development.
8. Performance appraisals are based on objective, quantifiable results.
9. Supervisors get together with me to set my personal goals.

10. My salaries and rewards are determined by my performance.
11. The company attaches importance to the fairness of compensation/rewards.
12. I receive monetary or nonmonetary rewards for great effort and good performance.
13. The company considers my off-work situations (family, school, etc.) when making schedules.
14. The company has its ways or methods to help me alleviate work stress.
15. The company has formal grievance procedures to take care of my complaints or appeals.
16. If a decision made might affect me, the company asks me for opinions in advance.
17. I am often asked to participate in work-related decisions.
18. The company shares job-related information with me (e.g., company operation, sales, etc.).

In review