

# HPWS and unethical pro-organizational behavior: a moderated mediation model

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265

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## Abstract

**Purpose** – The purpose of this paper is to examine the effect of employees' perceptions of high-performance work systems (HPWS) on unethical pro-organizational behavior (UPB), and explores the mediating role of psychological ownership and the moderating role of moral identity.

**Design/methodology/approach** – The hypotheses were tested by using two-wave survey data that were collected from 306 employees in Chinese enterprises.

**Findings** – This study found that HPWS were positively related to UPB, and psychological ownership partially mediated this relationship. Results also revealed that moral identity negatively moderated the relationship between psychological ownership and UPB, and the indirect effect of HPWS on UPB via psychological ownership was weaker for employees high in moral identity.

**Research limitations/implications** – The generalizability of the findings is limited, and the cross-sectional data cannot draw any clear causal inference among variables.

**Practical implications** – Managers should pay attention to the “dark side” of HPWS and incorporate ethics in the HPWS. Moreover, organizations should provide correct guidance for their pro-organizational behaviors to avoid employees doing bad things for good reasons.

**Originality/value** – This study first extends HPWS research to employee's UPB, uncovers employees' psychological ownership toward organizations as the pivotal mechanism underlying this relationship, and indicated moral identity can regulate employees unethical behavior.

**Keywords** Performance management, Human resource management, Work engagement

**Paper type** Research paper

## Introduction

The past few decades have witnessed a substantial amount of research on unethical behavior in the workplace, referred to as conduct violating the accepted moral codes of society, such as counterproductive work behavior, fraud. A common assumption among these works is that unethical behavior is conducted for the interest of the self. However, many studies have recognized that employees might engage in unethical behaviors serving the benefit of their organizations (Lee *et al.*, 2017). For example, employees hide negative information about their company or products from customers for the interests of company. Umphress *et al.* (2010) call this behavior as unethical pro-organizational behavior (UPB), which is broadly conceptualized as “actions that are intended to promote the effective functioning of the organization or its members (e.g. leaders) and violate core societal values, mores, laws, or standards of proper conduct” (Umphress and Bingham, 2011). UPB refers to a number of ethical relevance on a societal level and may potentially produce destructive consequences on organizations and external stakeholders, even though the intention is to benefit the organization (Umphress and Bingham, 2011; Vadera and Pratt, 2013). At present, organizations have more external stakeholders, such as governments, stockholders, communities and customers exerting pressure on managing employees' behaviors to reduce their illegal and unethical conducts (Treviño *et al.*, 2006). So it is urgent for us to explore the



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potential motivation for UPB and examine the mechanisms which conduce to account why employees would conduct this unethical behavior. In addressing this question, prior studies have indicated numerous individual-level factors including Machiavellianism (Castille *et al.*, 2016), organizational identification (Chen *et al.*, 2016), psychological entitlement (Lee *et al.*, 2017), and interpersonal-level factors including transformational leadership (Effelsberg *et al.*, 2014), ethical leadership (Miao *et al.*, 2013) and employee-organization relationships (Wang *et al.*, 2018) that help to explain why employees engage in UPB, thereby advancing our understanding of behavioral ethics considerably. Interestingly, however, little is known about the potential role management contextual variables that play in predicting UPB.

In an attempt to address this lacuna, we examine whether high-performance work systems (HPWS), which are defined as a system of HRM practices intended to enhance employee's skills, commitment and productivity in such a way that employees become a source of competitive advantage (Datt *et al.*, 2005, p. 135), lead individuals to exhibit a greater willingness to engage in UPB. On the basis of social exchange theory and social identity theory, we also test the potential role of key mediator psychological ownership, and moderator moral identity.

This paper contributes to the existing literature in a number of ways. First, prior studies have suggested the positive side of social exchange relationship in HRM research, but turn a blind eye to its dark side. Umphress *et al.* (2010) pointed out that some productive conducts might evoke unethical behavior, and demonstrated that UPB is a potential negative consequence of social exchange relationships and organizational identification (Kalshoven *et al.*, 2016). HPWS are designed to build long-term and positive social exchange relationship with employees, inspire employees' positive emotional attachment to organizations, and eventually improve organizational performance (Lv and Xu, 2016; Nieves and Osorio, 2017), but limited attention has been placed on the role played by HPWS in influencing employees' UPB. So our research for the first time provides evidence for the link between HPWS and UPB, by drawing attention to the ethical challenges of positive social exchange relationship. Second, our study extends the UPB literature by shedding light on the psychological mechanism: psychological ownership. Psychological ownership, referring to a psychological experience when individuals produce possessive feelings and attachment to objects (Pierce *et al.*, 2001, 2003) is increasingly being confirmed to play a mediating role in the organization-individual relationships (e.g. Liu *et al.*, 2012; Dawkins *et al.*, 2017). Notwithstanding that, there is no sufficient research examining whether psychological ownership likewise mediates the effect of HPWS on UPB. Third, we investigate the boundary conditions of the moderated mediation model from the perspective of moral identity which is based on the social identity theory. Despite the considerable body of research on the outcomes of psychological ownership, there is only scant literature focusing on the underlying boundary conditions (Dawkins *et al.*, 2017), especially when the dark side of psychological ownership manifests itself remains unclear (Olckers and Zyl, 2016). Furthermore, previous studies found that ethical intent and behaviors are impacted by personal characteristics (Kish-Gephart *et al.*, 2010). So this individual difference factor of moral identity may help explain when employees are more likely to show willingness to engage in UPB under the similar organizational situation.

The remainder of the paper is structured as follows. We first review relevant literature and present our formal hypotheses. Then, we describe our sample and research method, and finally, we report our findings and consider the implications and limitations of our study.

## Literature review and hypotheses

### *HPWS and UPB*

This study mainly focuses on employee-experienced HPWS, which have got more attention from latest HPWS research (Agarwal and Farndale, 2017). The reasons for this arrangement are: employees may have different perception or experience to management practices and

employee perceived HPWS have the most immediate impact on their attitudes and behaviors (Jensen *et al.*, 2013). Most research on the effect of HPWS on employees' pro-organizational behaviors is often based on the social exchange theory, which indicates that employees feel an obligation to reciprocate organizations with benefits, when they experience beneficial treatments from organizations. Meanwhile, Umphress *et al.* (2010) theoretically proposed and empirically confirmed that the employee's positive reciprocity beliefs would influence the UPB of employees, and social exchange theory also has been widely used to explain why employees might engage in UPB (Miao *et al.*, 2013; Kalshoven *et al.*, 2016). So we will give a fuller insight into the relationship between HPWS and UPB based on social exchange theory.

It is known that HPWS build a long-term investment to employees by providing them with direct incentive, rewards and opportunities for development (Diaz-Fernandez *et al.*, 2017). On the basis of the social exchange theory, when employees experience HPWS, they will build strong and positive social exchange relationship with organizations and ultimately drive their obligation to reciprocate with pro-organizational behaviors. However, "everything has two sides," existing studies about HPWS-employee behavior relationship ignore the negative consequences of the positive social exchange. So it was UPB, indicating employees probably do "bad things for good reasons." On the one hand, employees may pay more attention to how finish their work and engage in acts for the benefits of organizations to reciprocate organizations, and even overlook the ethical implications of their behaviors and the benefits of external stakeholders (Kalshoven *et al.*, 2016). On the other hand, positive social exchange relationships may foster strong sense of loyalty that will reduce employees' tendency of harming organizations (Wilks, 2011) and even lead employees to regard their unethical behavior for benefiting organization as being "good citizens" (Kelman and Hamilton, 1989; Wang *et al.*, 2018). For example, employees may view UPB (e.g. exaggerating the truth about company's products or services to customers to help company) as an appropriate way to reciprocate their organizations. Therefore, according to the social exchange theory, we assert that HPWS can engender a high-quality social exchange relationship with employees and make employees feel more comfortable to engage in risky behaviors such as UPB (Miao *et al.*, 2013):

H1. HPWS will be positively related to UPB.

#### *Mediating effect of psychological ownership*

Psychological ownership is featured by the sense of possessiveness and being psychologically tied to a range of tangible and intangible "targets" (Pierce and Rodgers, 2004), which refers to the object of attachment to the individual or group (Liu *et al.*, 2012). In this research, we mainly focus on the psychological ownership directed at the organization, which represents a psychological state when employees experience the organization they work for as "mine" (e.g. I feel this is MY organization).

*HPWS and psychological ownership.* Although the effect of HPWS on employees' attitudes and behaviors is well understood, there is a dearth of study investigating the impact of HPWS on psychological ownership. According to the literature relevant to the origin and development of possession and ownership, Pierce *et al.* (2001) summarized and abstracted that the emergence of psychological ownership lied in three main routes: controlling over the target, intimately knowing the target, and investing the self into the target. On the basis of these initial ideas, we contend that the components of HPWS can increase employees' psychological ownership. In terms of single practice, participative decision-making can help employees enhance control over the target of ownership (Liu *et al.*, 2012). Information sharing provides employees with intimate access to the status of the organization (Pierce and Rodgers, 2004). Careful selection procedures conduce to make

employees experience that they share similar values with organizations and get a deeper understanding of the organization (Han *et al.*, 2015). Extensive ownership of shares (e.g. profit-sharing schemes) means that employees invest into their organizations (Pierce and Rodgers, 2004) and are bound to the success of the organization. Employment security can enhance employees' organizational identification, loyalty and investment of themselves into the organization (Pfeffer, 1998). As a general view, HPWS are composed of a bundle of separate but interconnected HRM practices, and it has been proven that the systematic effect of HPWS on outcomes is greater than that of individual practices (Combs *et al.*, 2006). Moreover, HPWS could give employees a supportive environment including investments in employee skills, incentives or recognition for employee efforts, and opportunities for employee growth. Therefore, employees will be encouraged to increase their self-investment in the organization when they experience HPWS carried out by their organizations satisfying their needs, and in turn develop feelings of ownership directed at the organization (Avey *et al.*, 2009):

*H2. HPWS will be positively related to employees' psychological ownership toward organizations.*

*Psychological ownership and UPB.* Psychological ownership serves to satisfy basic human needs for efficacy, self-identity, and belongingness (Pierce *et al.*, 2003), which is the important factor affecting individual behaviors (Dawkins *et al.*, 2017). The theoretical reason behind the linkages between psychological ownership and employee outcomes can be figured out by drawing on the social exchange (effort applied due to the satisfying of needs by a particular organizational target) and social identity (effort applied from using the target of ownership as an expression of personal identity) theories as complementary conceptual frameworks (Avey *et al.*, 2009). According to the two theoretical perspectives, when employees feel ownership in the organization context suggesting organizations fulfill their basic human needs, they tend to more protect, care, and make sacrifice for organizations and engage in pro-organizational behaviors (Pierce *et al.*, 2001; Avey *et al.*, 2009; Brown *et al.*, 2014). Furthermore, Pierce *et al.* (2003) theoretically demonstrated that people high in psychological ownership toward organizations might immerse themselves in protecting and enhancing their psychological possessions, even if it is at the expense of their family or community. Further, employees would pay much attention to protecting the benefits of organizations when feeling the ownership toward organizations, so that they are willing to take risk to disregard the moral standards and the interests of external stakeholders (Pierce *et al.*, 2003; Pierce and Jussila, 2011). Specially, Brown *et al.* (2005) warned that psychological ownership might lead individuals to conduct protective behaviors aimed at the target of ownership. Baer and Brown (2012) found that individuals might reject others' potentially beneficial advice that shrank their possessions. Considering UPB is intended to promote the effective functioning of organizations, we argue that psychological ownership toward organizations will be positively related to employees' UPB. In conclusion, we expect HPWS can enhance organization-based psychological ownership, which in turn provokes employees' UPB:

*H3. Psychological ownership will mediate the positive relationship between HPWS and UPB.*

#### *Moderating effect of moral identity*

Blasi (1984) first introduced moral identity, which is defined as "a self-conception organized around a set of moral traits" (Aquino and Reed, 2002, p. 1424). Moral identity contains two dimensions: one is internalization involving the extent to which becoming an ethical man is extremely important to one's self-concept; the other is symbolization involving the extent to which individuals express their focus on moral traits with practical

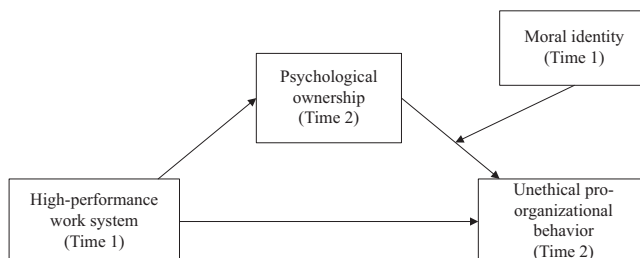
actions (Aquino and Reed, 2002). We mainly focus on internalization, for this dimension reveals the self-determined importance of moral character to one's identity and links with individual moral decision-making and ethical behaviors. We hold that the association between psychological ownership and UPB and the mediating role of psychological ownership might vary depending on that influence the judgments and actions employees take when facing the ethical dilemmas (Jennings *et al.*, 2015).

This definition of moral identity based on the social identity theory indicates that it is one potential component of a person's social self-schema (Aquino and Reed, 2002), so moral identity can impact individual perceptions and behaviors. It has been acknowledged that people will try their best to maintain self-identities that they think is meaningful, and thereby conduct certain behaviors which are consistent with their self-defining attributes (Blasi, 1984). From this, Blasi (2004) pointed out that individuals, who regard morality as the central element of their self-definitions, hope for keeping the sense of self-consistency and act in ways that are consistent with their moral values, and if conducting unethical behavior, individuals with high moral identity would feel inauthentic (Greenbaum *et al.*, 2013); moral identity has been theoretically and empirically found to have a restraining effect on individuals' ethical behaviors and moral decision-making (Jennings *et al.*, 2015). Given this, we argue that employees with high moral identity are more inclined to take UPB as an inappropriate act because it damages the benefit of external stakeholders. Even though some employees hold high level of psychological ownership toward organizations, employees with high levels of moral identity may still respond organizational-based psychological ownership more ethically. Accordingly, we argue that the strength of the effect of psychological ownership on employees' UPB is moderated by moral identity:

- H4.* Moral identity will negatively moderate the relationship between psychological ownership and UPB, such that this relationship is weaker at higher levels of moral identity than at low levels.

Although HPWS is likely to solicit employee UPB via psychological ownership, we argue that individual differences may play a vital role in this relationship. According to the above analysis, we put forward a moderated mediation model integrating mediation and moderation effect into a single framework, which is displayed in Figure 1. In combination the *H3* and *H4*, it is not difficult to find that the indirect effect of HPWS on UPB through psychological ownership depends on the levels of moral identity, because moral identity plays a moderating role in the second stage of the mediating process. Namely, the strength of the mediated relationship between HPWS and UPB through psychological ownership depends on the level of moral identity, which leads us to make the forecast that moral identity operates as a second stage moderator in our moderated mediation model:

- H5.* Moral identity moderates the indirect relationship between HPWS and UPB, such that this indirect relationship is stronger among employees with lower moral identity.



**Figure 1.**  
Research model

## Research method

### *Sample and procedure*

Responses were collected from 306 employees working in Chinese companies. Among them, 158 (51.6 percent) were male and 148 (48.4 percent) were female participants. In terms of age, 16.7 percent were aged below 30 years, 38.9 percent from 30 to 40 years, 32 percent from 41 to 50 years and 12.4 percent above 50 years. In terms of education level, only 1.6 percent had below junior college degree, 18 percent had junior college degree, 74.5 percent had bachelor degree and 5.9 percent had master degree and higher degree. In terms of working years at the company, 27.2 percent worked for less than 5 years, 38.5 percent worked for 5-10 years, 17.9 percent worked for 11-15 years and 16.4 percent have worked for more than 15 years.

Before the formal investigation, we explained the significance and managerial implications of our study with personal contacts, and made a promise that we did not leak any data and information about companies. After receiving permission and support from the HR managers, we carried out two-wave surveys at an average three-month interval to reduce common method biases (Podsakoff *et al.*, 2003), and employees accessed our surveys via the internet. Online questionnaires can be finished by using company or personal computer in ten days, and employees who do not finish it will receive an e-mail reminder one week after the initial invitation. In order to improve response rate, we distributed the study announcement and questionnaires to employees via e-mail, along with a letter pledging to secrecy and emphasizing the independence of our research (Korff *et al.*, 2017). At the first wave (Time 1), participants completed our survey including their personal information, their experienced HPWS and moral identity. Like previous studies on HPWS (e.g. Jiang *et al.*, 2015), participants were asked to rate their psychological ownership and UPB after three months.

### *Measures*

*HPWS (T1).* We measured HPWS with 15 items from Xiao and Björkman (2006). One sample item is “employees are involved in job rotation.” We asked employees to respond the firms’ HPWS on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach’s  $\alpha$  of HPWS was 0.913, showing an excellent internal reliability.

*Moral identity (T1).* We measured moral identity with Aquino and Reed’s (2002) scale of internalization. This measure provides nine moral traits (i.e. caring, compassionate, fair, friendly, generous, helpful, hardworking, honest, and kind) to respondents and requires them to assess the importance of having these traits for them. An example item is “Being someone who has these characteristics is an important part of who I am.” Responses were provided with a five-point Likert-type answer format, ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach’s  $\alpha$  for these items was 0.906.

*Psychological ownership (T2).* We employed the seven-item psychological ownership scale from Van Dyne and Pierce (2004). Participants were asked to evaluate statements such as “This is MY organization” and “I feel a very high degree of personal ownership for this organization” using a five-point scale (1 = strongly disagree, 5 = strongly agree). Cronbach’s  $\alpha$  was 0.931.

*UPB (T2).* We used the six-item scale developed by Umphress *et al.* (2010) to measure UPB with a five-point scale (1 = strongly disagree, 5 = strongly agree). One sample item reads “If my organization needed me to, I would withhold issuing a refund to a customer or client accidentally overcharged.” Cronbach’s  $\alpha$  coefficient for this scale in our study was 0.924.

*Control variables (T1).* Previous studies demonstrated that demographic characteristics may influence the extent to which individuals conduct unethical behavior (Erdogan and Liden, 2002; Kish-Gephart *et al.*, 2010), and most empirical research about the UPB takes

demographic characteristics as control variables (e.g. Miao *et al.*, 2013; Effelsberg *et al.*, 2014; Chen *et al.*, 2016; Kalshoven *et al.*, 2016; Kong, 2016). Therefore, we controlled gender, age, tenure, position to rule out alternative explanations for our conclusions.

## Analyses and results

### *Testing the measurement models*

To verify the distinctiveness of the measured constructs, we carried out confirmatory factor analyses in AMOS 17.0 on the four scales including HPWS, psychological ownership, moral identity and UPB. A satisfactory model fit requires that  $\chi^2/\text{df}$  value less than 2.5, IFI, TLI and CFI values above 0.90, RMSEA and SRMR values below 0.08 (Browne and Cudeck, 1993; Hu and Bentler, 1999). According to Table I, the data exhibited a good fit to the proposed four-factor model ( $\chi^2/\text{df}=1.987$ , IFI=0.934, TLI=0.922, CFI=0.933, SRMR=0.0684, RMSEA=0.057). We also tested alternative models with three factors, two factors and single factors, as revealed in Table I; all alternative models fitted the data significantly poorer than did in our theoretical model. Thus, there are conceptual distinctions among the four variables.

Although this study collected data from different time point, all variables were self-report, which is likely to suffer from common method variance (CMV). To deal with the potential concerns about this bias, we employed single-common-method-factor approach (Podsakoff *et al.*, 2003). Following previous literature adopting this way (e.g. Ng *et al.*, 2014), we loaded all items on their theoretical constructs and a created latent CMV factor, and found that the measurement model including a common method factor showed a good fit to the data ( $\chi^2/\text{df}=2.044$ , IFI=0.912, TLI=0.902, CFI=0.912, SRMR=0.0737, RMSEA=0.064). However, according to the  $\chi^2$  difference test, this measurement model did not enhance the fit of our four-factor model without controlling for the common method factor. Therefore, the CMV is not a serious problem that can affect the accuracy of our results.

### *Descriptive statistics*

The means, standard deviations, pair wise correlations, and internal reliabilities for our variables are presented in Table II. The dependent variable UPB was significantly associated with HPWS ( $r=0.475$ ,  $p<0.001$ ), psychological ownership ( $r=0.496$ ,  $p<0.001$ ), and moral identity ( $r=-0.382$ ,  $p<0.001$ ). HPWS were positively related to psychological ownership ( $r=0.791$ ,  $p<0.001$ ). Furthermore, due to the high correlation among these variables, we checked the variance inflation factors (VIF) to rule out the multicollinearity in

Models	$\chi^2(\text{df})$	$\chi^2/\text{df}$	IFI	TLI	CFI	SRMR	RMSEA
Baseline four-factor model	906 (456)	1.987	0.934	0.922	0.933	0.0684	0.057
Three-factor model: combined UPB and moral identity into one factor	1,688 (493)	3.424	0.823	0.809	0.822	0.2791	0.089
Three-factor model: psychological ownership and moral identity combined into one factor	1,603 (493)	3.252	0.835	0.823	0.834	0.2621	0.086
Two-factor model: psychological empowerment, moral identity and UPB combined into one factor	1,570 (491)	3.199	0.840	0.827	0.839	0.2553	0.085
One-factor model: all variables combined into one factor	3,154 (495)	6.373	0.605	0.577	0.603	0.1307	0.133

**Notes:**  $n=306$ .  $\chi^2$ , chi-square discrepancy; df, degrees of freedom; IFI, incremental fit index; TLI, Tucker–Lewis index; CFI, comparative fit index; RMSEA, root mean square error of approximation; SRMR, standardized root mean square residual

**Table I.**  
Measurement  
model comparisons

**Table II.**  
Descriptive statistics,  
correlations and  
reliabilities for  
scale variables

our data set. The results showed that the mean value of VIF was 1.268, and the highest value was 2.689, that is, no VIF exceeded a threshold value of 5 suggested by Haan (2002). Therefore, multicollinearity cannot affect the validity of our results.

*Hypotheses testing*

This study used SPSS 19.0 and Mplus 7.0 to test the hypotheses involving the relationship among HPWS, psychological ownership, moral identity and UPB. Considering the control variables (participant age, gender, tenure and position) failed to substantively change the results, so the control variables were excluded from all analyses in our research.

*H1* predicted that HPWS would be positively related to UPB. To test this hypothesis, the results of Model 2 in Table III indicated that HPWS had a significant positive relationship with employees' UPB ( $\beta = 0.677$ ,  $SE = 0.072$ ,  $p < 0.001$ ). Moreover, inclusion of the HPWS variable in Model 2 explained variance 2.26 percent ( $F = 88.740$ ,  $p < 0.001$ ). Thus, the empirical results supported *H1*.

*H2* suggested that employees' psychological ownership plays a mediating role in the relationship between HPWS and UPB. In consideration of the shortages of traditional tests, we adopted path analytic procedures (Edwards and Lambert, 2007; Preacher *et al.*, 2007) and

Variable	Mean	SD	1	2	3	4	5	6	7	8
Gender	1.48	0.50	(-)							
Age	3.40	0.92	-0.103	(-)						
Tenure	3.07	0.99	-0.130*	0.731***	(-)					
Position	3.18	0.91	0.150**	-0.036	-0.140*	(-)				
HPWS	3.29	0.63	0.031	-0.056	-0.029	-0.105	(0.913)			
PO	3.23	0.86	-0.033	-0.085	-0.032	-0.146*	0.791***	(0.931)		
MI	3.96	0.67	0.052	0.157**	0.153**	0.056	0.455**	0.322***	(0.906)	
UPB	3.04	0.90	0.016	-0.226***	-0.179**	-0.072	0.475**	0.496***	-0.382***	(0.924)

**Notes:** Reliabilities are in parentheses. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

**Table III.**  
Regression results  
for moderation  
and moderated  
mediation model

	Psychological ownership		Unethical pro-organizational behavior					
	Model 1		Model 2		Model 3		Model 4	
Dependent variable	$\beta$	SE	$\beta$	SE	$\beta$	SE	$\beta$	SE
HPWS	1.079***	0.048	0.677***	0.072	0.315**	0.115	0.367**	0.121
Psychological ownership					0.335***	0.084	0.396***	0.085
Moral identity							−0.278***	0.075
Psychological ownership × Moral identity							−0.212**	0.065
$R^2$	0.626		0.226		0.260		0.299	
$F$	509.507**		88.740***		54.468***		3.482***	
	Conditional indirect effect							
Moderator	Level	$\beta$	SE	$t$	95% CI			
Moral identity	High (+1 SD)	0.198	0.133	1.487	(−0.019, 0.404)			
	Mean	0.427***	0.101	4.213	(0.253, 0.588)			
	Low (−1 SD)	0.656***	0.138	4.796	(0.429, 0.883)			
	Difference	−0.458**	0.179	−2.055	(−0.760, −0.188)			

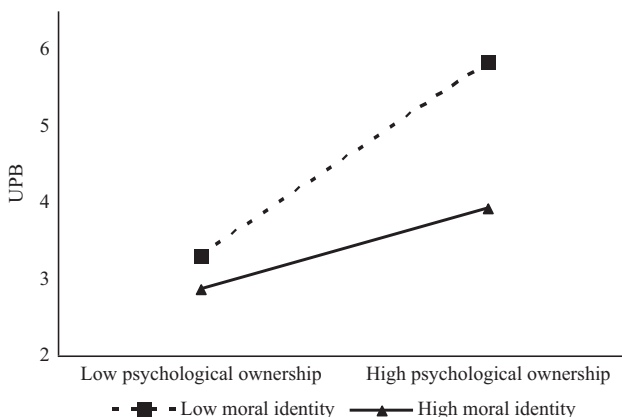
**Notes:** Control variables (participant age, gender, tenure, and position) failed to substantively change the results, and hence were excluded from all analyses in the paper. Bootstrap sample size = 1,000. \* $p < 0.05$ ; \*\* $p < 0.01$ , \*\*\* $p < 0.001$



carried out bootstrapping analysis estimating the indirect effects to test this mediation hypothesis. According to the procedure put forward by Preacher and Hayes (2008), the HPWS should be significantly relevant to psychological ownership at first. The results in Table III showed that HPWS were significantly and positively associated with psychological ownership ( $\beta = 1.079$ ,  $SE = 0.048$ ,  $p < 0.001$ ), which supported *H2*. Second, after we controlled for the independent variable HPWS, the effect of mediation variable psychological ownership on the dependent variable employees' UPB was significant ( $\beta = 0.335$ ,  $SE = 0.084$ ,  $p < 0.001$ ). More importantly, the indirect effects in simple mediation models within this analysis procedure should be significant. As our bootstrap results demonstrated in Table III when moral identity was at the mean level, the indirect effect of HPWS on employees' UPB through psychological ownership was significant ( $\beta = 0.427$ ,  $SE = 0.101$ ,  $t = 4.213$ ,  $p < 0.001$ ), and the estimated 95 percent bootstrap confidence intervals was (0.253, 0.588), which did not contain zero. Altogether, *H3* was supported. In addition, considering the direct effect of HPWS on UPB was significant, so psychological ownership partially mediates the relationship between HPWS and UPB.

*H4* suggested that moral identity plays a moderating role in the relationship between psychological ownership and UPB. As is indicated in the model 4 of Table III, the interaction between psychological ownership and moral identity was significantly related to UPB ( $\beta = -0.212$ ,  $SE = 0.065$ ,  $p < 0.01$ ). Figure 2 and slope tests demonstrated that the positive relationship between psychological ownership and UPB was significantly stronger when moral identity was at low levels ( $\beta = 0.608$ ,  $SE = 0.124$ ,  $t = 4.921$ ,  $p < 0.01$ ) than at high levels ( $\beta = 0.183$ ,  $SE = 0.124$ ,  $t = 1.479$ ,  $p > 0.1$ ). Thus, *H4* was supported.

*H5* predicted a moderated mediation that arises when the mediating process from the HPWS to UPB depends on the levels of moral identity. Following the suggestions of Preacher *et al.* (2007), we used the Mplus 7 to examine the conditional indirect effects. As presented in Table III, the conditional indirect effect for HPWS was significant when employees have low levels of moral identity (i.e.  $\beta = 0.656$ ,  $SE = 0.138$ ,  $t = 4.796$ ,  $p < 0.001$ , 95% CI = (0.429, 0.883) for one standard deviation below the mean), but it became insignificant at high levels of moral identity (i.e.  $\beta = 0.198$ ,  $SE = 0.133$ ,  $t = 1.487$ ,  $p > 0.1$ , 95 percent CI = (-0.019, 0.404) for one standard deviation above the mean). Moreover, the difference between the indirect relationships was significant ( $\Delta\beta = -0.458$ ,  $SE = 0.179$ ,  $t = -2.055$ ,  $p < 0.01$ ), with bootstrapping 95% CI being (-0.760, -0.188) excluding 0. Therefore, our results supported the moderated mediation model.



**Figure 2.**  
The moderation effect  
of moral identity on  
the relationship  
between psychological  
ownership and UPB

## Discussion

Drawing on the social exchange theory and social identity theory, we built a moderated mediation model which confirmed by the results of data analysis. We found that HPWS were positively related to UPB, and extended the literature by proving that psychological ownership mediates this relationship. Moreover, we found that moral identity moderated the relationship between psychological ownership and UPB. Finally, we examined the moderated mediation model that the effect size of HPWS on UPB through psychological ownership was moderated by the boundary condition of moral identity.

### *Research implications*

First, this study extends HPWS research to employees' behaviors referring to ethics. Even though Keegan and Boselie (2006) called for a balanced investigation about the effects of HPWS on employees outcomes, only a few researchers focus on the potential dark side of HPWS (e.g. Jensen *et al.*, 2013; Topcic *et al.*, 2016). Unlike previous research, we draw on the negative side of social exchange theory to analysis the effect of HPWS on employees UPB. This finding is consistent with the argument that HPWS can motivate employees to conduct pro-organizational behavior, but also suggest that this behavior may be unethical. Meanwhile, we respond to the call of Umphress *et al.* (2010) by taking HPWS as a new antecedent of UPB, and provide the empirical evidence supporting the previous theoretical research demonstrating that employees might conduct unethical behaviors to benefit the organization (Brief *et al.*, 2001).

Another significant contribution of this study is to uncover employees' psychological ownership toward organizations as the pivotal mechanism underlying the relationship between HPWS and UPB, which suggests that the effect of HPWS on employee outcomes is not directed as is assumed in previous research (Heffernan and Dundon, 2016). This is the first time to introduce the psychological ownership as the mediator in this relationship, which not only helps open the "black box" about the mechanism behind the effect of HPWS on employee outcomes (Boxall, 2012), but also expands the empirical research on psychological ownership. Specifically speaking, this work adds to our knowledge of the new antecedent of organization-based psychological ownership with HPWS. In addition, we found that the psychological ownership toward organizations could lead employees to conduct unethical behaviors for the benefits of organizations, which advances the limited literature on the negative outcomes of psychological ownership (i.e. Avey *et al.*, 2009; Baer and Brown, 2012; Brown *et al.*, 2014).

Moreover, we contribute to the research that indicates moral identity can regulate employees' unethical behavior, by investigating the moderating effect of moral identity on the psychological ownership-UPB relationship. Additionally, so far we have only identified several studies investigating the boundary conditions behind the linkage between psychological ownership and employee outcomes (i.e. Baer and Brown, 2012; Brown *et al.*, 2014; Liu *et al.*, 2012). This finding also adds to the surprisingly limited research by exploring individual differences which impact the association between psychological ownership and UPB, and address the call for more research about understanding the boundary conditions of psychological ownership-outcomes link.

### *Practical implications*

Our research findings also have important managerial implications. First, we remind managers of paying attention to the "dark side" of HPWS. Specifically speaking, managers should value the guidance of corporate social responsibility to employee's behaviors, and incorporate ethics in the HPWS. For example, organizations can have a special concern evaluation and rewarding system by formulating reasonable rules and regulations to ensure employees have a good balance between financial gains and moral standards; organizations can also instill the minds of employees with ethical value during the training process (Greenbaum *et al.*, 2013). Next, our research supports the view of Baer and Brown (2012) that

psychological ownership is a double-edged sword. Except for the benefit of psychological ownership, managers should be mindful of employees' psychological investment to organizations, and provide correct guidance for their pro-organizational behaviors, so as to avoid employees doing bad things for good reasons. Additionally, managers can benefit from employees high in moral identity and diminish the occurrence of UPB. So we suggest that organizations should pay special attention to assessing on the moral characters of individuals during the hiring and performance appraisal process, rather than only emphasizing on ability and performance. At the same time, managers should attach great importance to create a favorable organization environment that promotes moral standards and norms to elevate employees' moral awareness. Finally, considering employees low in moral identity are more likely to engage in UPB, it is necessary for organizations to monitor immoral behaviors to prevent menacing organizational development.

### *Limitations and future research*

Despite making above contributions, this work also suffers from several limitations. As for the limitations of methodology, first, our data are collected from the same source, which may encounter common method bias. In fact, this research is designed to explore the effect of employee perceived HPWS on UPB, which seems more suitable for all constructs to be measured with self-report. Although we took relevant steps to reduce and examine this problem, further studies can adopt multiple sources and time data to examine our findings. Second, our cross-sectional data cannot help us to draw any clear inference about causal relationships among variables. Future research can examine our theoretical model by adopting a longitudinal or experimental design. Third, our control variables (participant age, gender, tenure, and position) failed to substantively change the results, and future research should add efficient control variables based on theoretical reasoning to improve our research as suggested by Bernerth and Aguinis (2016). Finally, our study suggests that psychological ownership partially mediates the HPWS-UPB relationship, and scholars can investigate other mediators to extend our study.

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