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Article: **A Moderated Mediation Model of Empowering Leadership and Employees' Innovative Work Behavior**

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A Moderated Mediation Model of Empowering Leadership and Employees' Innovative Work Behavior

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Abstract

This study examined the moderated mediation model of empowering leadership and employees' innovative work behavior (IWB) by analyzing the mediating role of employees' psychological empowerment and high-performance work system (HPWS). Using the convenience sampling technique, time-lagged data was collected from 433 software engineers working in different software companies operating in Pakistan. Hierarchical regression analysis and PROCESS macro were used to perform the analysis. The findings revealed that empowering leadership impacts employees' IWB directly as well as through their psychological empowerment, while HPWS moderates the relationship between empowering leadership and employees' psychological empowerment. The findings further articulated that the moderated mediation effects of HPWS also arbitrate between empowering leadership and employees' IWB. The results of this study implied that when employees work in the context of a high HPWS, they reciprocate positively to the support and resources received from their leaders. Similarly, in the context of a high HPWS, empowering leadership greatly enhances employees' psychological empowerment and creativity. In the context of a low HPWS, employees' IWB depends upon their leaders' behavior and also on their own psychological empowerment. Hence, the study analyzed *when* (contextual boundary conditions) and *how* (the underlying mechanism) empowering leadership enhances employees' IWB by utilizing the moderated mediation model.

Keywords: empowering leadership, high-performance work system (HPWS), innovative work behavior (IWB), psychological empowerment

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Introduction

Employees' innovative work behavior (IWB) at the workplace has gained a lot of attention from peers since it plays a significant role in organizational innovation (Saether, [2019](#)). It is also used to achieve innovation-oriented competitive advantage to gain firm success in the present-day dynamic business environment (Elrehail et al., [2018](#)). Employees having a greater extent of IWB are considered to be more beneficial to firms than those who are not good at conceiving fresh and original ideas. Moreover, IWB is considered a significant antecedent of numerous employee outcomes, such as job performance (Dörner, [2012](#)) and relationship management (Zhang et al., [2018](#)), as well as organizational outcomes, including organizational innovation (Litchfield et al., [2015](#)) and organizational performance (Shanker et al., [2017](#)).

Researchers have been trying to recognize the predictors that can enhance the probability of IWB, since it significantly affects organizational and employee outcomes. Subsequently, several studies established that empowering leadership (EL), among other predictors, is a major factor affecting IWB (Jada et al., [2019](#); Gkorezis, [2016](#)). In addition to this direct effect, some researchers have also found the indirect effect of EL on IWB through numerous motivational and relational mechanisms (Jada et al., [2019](#); Lee & Wu, [2017](#)). It is widely believed that IWB is a complex phenomenon (Scott & Bruce, [1994](#)) that is dependent upon psychological characteristics and contextual (firms) attributes of individuals (employees) (Madrid et al., [2014](#)).

This study drew upon interactionist perspective to address *when* and *how* EL affects employees' IWB. IWB is a multifaceted mechanism which is dependent upon a combination of employee and firm level antecedents (Scott & Bruce, [1994](#); Madrid et al., [2014](#)). For this reason, Shalley et al. ([2004](#)) stated that when personal determinants connect with other contextual determinants, they influence IWB in different ways. Additionally, the latest studies in this field also implied that the degree to which an empowering leader affects their subordinates' IWB depends upon the personal and environmental attributes of employees. Zhang et al. ([2018](#)) found that self-esteem and access to resources and information positively moderated the relationship between leadership and creative behavior of

employees. Furthermore, Kim (2019) found that employees' proactive personality (personal attribute) positively and significantly moderated the relationship between EL and employee creativity. Audenaert and Decramer (2018) also found that employees' personal characteristics augment the relationship between empowering leadership and creative behavior. Similarly, Harris et al. (2014) revealed that the extent to which EL enhances employees' IWB depends upon organizational support (organizational attribute) and employees' trust in their leaders (personal characteristic). All of the above findings suggest that employees' personal characteristics, in combination with organizational factors, can enhance the impact of EL on employees' IWB. Hence, this study established that employees' personal characteristics are significant and may theoretically be used to identify *when* (boundary condition) and *how* (underlying mechanism) EL can become more effective in enhancing employees' IWB.

In this study, EL and employees' psychological empowerment (PE) were taken as the antecedent and mechanism of employees' IWB, respectively. PE is a psychological process demonstrating employee perception regarding the meaning and impact of job as well as regarding their own competence and self-determination (Spreitzer, 1995). EL promotes the competence and self-determination (personal attributes) of employees by nurturing a culture of recognition, praise, and gratitude (Zhang & Bartol, 2010). It also instils self-determination among employees by allowing them to manage their job activities (Pearce et al., 2003). Similarly, EL aims to foster job meaningfulness by empowering employees through appreciation and recognition with regard to the overall success of firms (Zhang & Bartol, 2010).

Therefore, it can be stated that when employees' cognitions (self-determination, competence, meaning, and impact) increases, they feel psychologically empowered, which in turn increases their IWB (Jada et al., 2019). This study further suggested that the high-performance work system (HPWS) of firms, which is a combination of human resource management practices that enhance skill, motivation, and participation of employees, is a situational antecedent. Furthermore, it is conducive to EL, which in turn augments PE and IWB of employees. For this reason, Messersmith and Chang (2017) recently proposed that employees' perception of HPWS also

plays a moderating role in the relationship between leadership and employees' IWB to augment leadership effectiveness. Hence, this study proposed that employees' perceived HPWS is a situational boundary condition and acts as a moderator in the relationship of EL and employees' IWB.

This research utilized a moderated-mediation framework of employees' perceived HPWS and PE as an intervening mechanism between EL and employees' IWB. Hence, the study contributes to the literature in three different ways. First, this study contributes to the existing literature by establishing an underlying mechanism to understand the relationship between EL and employees' IWB. In particular, this research established employees' perceived HPWS as a possible mediator, which can be used to identify how EL positively affects employee IWB via a psychological mechanism (PE). Second, this study identified when EL is more (or less) beneficial in improving employee PE. Third, this research contributes to the IWB literature by establishing an understanding of its antecedents and developing mechanisms. This study addresses the latest calls for (re)examination of the underlying mechanism (employees' PE) and boundary conditions (employees' perceived HPWS) at the same time. The study concludes that the interaction of different factors promotes employees' IWB, which in turn is affected by managers (empowering leadership), employees (psychological empowerment), and the organization (HPWS). Hence, this research broadens the comprehension of the underlying mechanisms (PE) and the boundary conditions (HPWS) between the examined variables.

Literature Review

This section provides the rationale behind the theoretical assertion that EL is associated with PE. It also explicates the mechanisms through which EL affects employees' IWB. The rationale for the moderating role of HPWS between EL and PE has been established in this section through literature review. The literature review also enumerates the moderated mediated model through which EL is associated with IWB.

Empowering Leadership and Innovative Work Behavior

Technological disruptions, high competition, and the mechanism of economic and social globalization have compelled companies to be ever more imaginative, innovative, and agile in order to sustain their existence and ensure organizational growth (Shafique et al., [2021](#)). In recent studies, organization and management scholars have emphasized the crucial role of leadership in cultivating innovation and creativity in organizational members (Mumford & Licuanan, [2004](#)). Leaders have the power to motivate employees and yield creative behavior amongst them (Den Hartog & Belschak, [2010](#)). As argued earlier, leaders promote the production and execution of new ideas by advocating a culture of learning and knowledge sharing and by inspiring and motivating employees (Alfes et al., [2013](#)). Thus, it is argued that a leader is a key driver of IWB.

EL has a significant role in yielding IWB in organizational members (Zhang & Bartol, [2010](#); Amundsen & Martinsen, [2014](#)). EL encompasses the process through which a leader shares power(s) with their team members by involving them in decision making, delegating control over resources, and handing over additional responsibilities so they go beyond expectations to achieve the goals effectively and efficiently (Vecchio et al., [2010](#)). Instead of influencing others, EL gives employees decision making power and autonomy over their work (Amundsen & Martinsen, [2014](#)).

Against this backdrop, it is argued that EL is an effective leadership approach with regard to its ability to induce employees' IWB. Given the vital role of employees with respect to organizational innovation and success (Černe et al., [2017](#)), a stronger sense of employee empowerment through EL is likely to foster greater employee engagement in creative processes, innovation, and commitment. Therefore, EL increases the likelihood of employees' engagement and demonstration of IWB. Accordingly, this study proposes its first hypothesis:

Hypothesis 1: EL positively affects employees' innovative behavior at work.

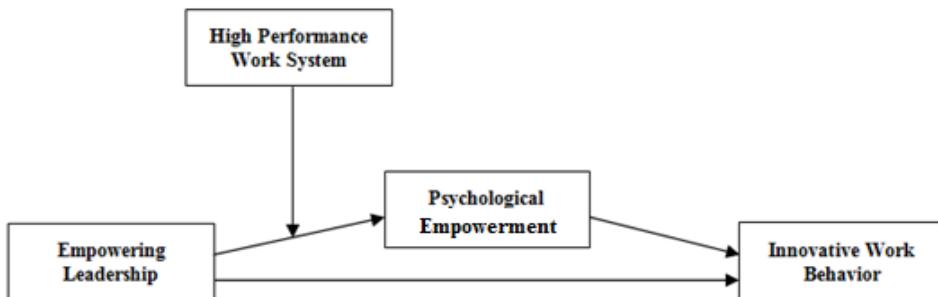
Psychological Empowerment as Mediator

PE is characterized by four cognitive dispositions: meaning, competence, self-determination, and impact (Spreitzer, [1995](#)). Meaning

refers to the awareness of job vitality, competence refers to the self-efficacy and capability of an employee to perform a job, self-determination refers to the psychological disposition of freedom and autonomy to perform a job (right from the beginning to the end), and impact refers to employees' level of influence on a job/task. Despite the significant role of PE in determining work-related outcomes, little to no research has investigated the role of the relationship between PE and EL in predicting these outcomes (Srivastava et al., 2006).

Figure 1

Conceptual Framework



IWB stems from multiple psychological mechanisms, such as PE (Amabile, 1996). Spreitzer et al. (1999) argued that PE enhances employees' performance because it possesses a greater sense of ownership and fosters a greater level of drive and initiative among employees. An empowered employee possesses job-related necessary knowledge and skills and is likely to make better decisions. They can ultimately show better job performance through IWBs. In addition to that, extant literature also provides concrete evidence on the significant role of PE in fostering IWB (Zhang & Bartol, 2010). Innovation is a challenging endeavor and requires an increased investment of psychological resources (such as PE) by employees (Amabile, 1996). Employees would be reluctant to expend these psychological resources in the absence of support from the organization in general and their leaders in particular. If EL offers psychological support, it would improve employees' PE. As a result, employees may readily invest their psychological resources to bring creative solutions (Zhang & Bartol,

[2010](#)). Hence, EL promotes PE and PE in turn fosters IWB. Therefore, the study proposes its second hypothesis:

Hypothesis 2: Psychological empowerment mediates the relationship between empowering leadership and employees' innovative behavior at work.

Moderating Role of High-Performance Work Systems (HPWS)

The relationship between EL and PE has been analyzed by several researchers; however, a careful review of the literature indicates the presence of several contingent factors. The investigation of these contingent factors is inevitable since it would reveal the relationship between the variables (Wright & Haggerty, [2005](#)). Many studies endorse that HPWS increases PE through cognitive and emotional mechanisms (Liao et al., [2009](#)). HPWS improves employees' PE to make them feel more autonomous and ultimately enhances their IWB. Moreover, human resource management plays a vital role in endorsing the communication process between employees and their leaders (Zhu, [2005](#)). HPWS plans to make a long lasting and optimistic shared relationship with employees and stimulate positive emotional affiliation between employees and their employer, which ultimately enhance firm performance (Nieves & Osorio, [2017](#)) through IWB. HPWS creates growth opportunities for employees through rewards and direct incentives (Diaz-Fernandez et al., [2017](#)).

Empirical evidence shows that HPWS enhances employee performance and yields organizational advantages (Delaney & Huselid, [1996](#); Jiang, et al., [2013](#)). Researchers believe HPWS is one of the most critical factors affecting employee behaviors at work. HPWS is believed to expedite the knowledge sharing process in organizations, which improves the learning capabilities of organizational members (Preuss, [2003](#)). Studies show that HPWS has a significant relationship with employees IWB, such that higher HPWS will result in better IWB. Employees' positive attitude towards human resource practices is also dependent upon IWB, turnover intentions, and workplace citizenship behavior (Mkamwa, [2010](#)). Based on these assertions, we hypothesize:

Hypothesis 3: The impact of empowering leadership on PE is contingent upon employees' perceptions of HPWS.

We argue that the traits of EL in top management are associated with employees' IWB through PE and that this relationship is contingent upon HPWS. Altogether, this leads us to the following moderated-mediation hypothesis:

Hypothesis 4: The mediated relationship of empowering leadership and employees' innovative behavior at work is contingent upon employees' perceptions of HPWS.

Research Methodology

Sample and Procedure

Software engineers performing various jobs in software companies participated in this study. The most common roles participants were engaged in included software development and team leadership. Data were collected with the help of a self-administered survey. Participants were reached via the human resource department of their respective organizations and also through their personal contact information. Data were collected at two different points in time. Employees were asked to rate their perceptions related to EL, their PE, and HPWS at Time 1 (T1). Two months later, at Time 2 (T2), the same respondents were asked about their IWB. After several reminders and strong follow-ups, researchers were able to receive back 448 filled questionnaires out of which 433 were usable for data analysis. Hence, the response rate was 78.73 %.

Out of 433 respondents, 319 (73.7%) were male and 114 (26.3%) were female. Furthermore, 228 (52.7%) respondents belonged to the age category of 25 years and below, 136 (31.4%) ranged between 26-30 years, 44 (10.2%) ranged between 31-35 years, 15 (3.5%) ranged between 36-40 years, and the remaining 10 (2.3%) age ranged above 40 years. In terms of education, 22 (5.1%) respondents had less than 14 years of education, 188 (43.42%) had 14 years of education, 111 (25.6%) had 16 years of education, and the remaining 112 (25.9%) had 18 or more than 18 years of education. Out of these respondents, 125 (28.9%) respondents had up to 3 years of working tenure with their current employer, 262 (60.5%) had 3-5 years of working tenure and the remaining 46 (10.6) had more than 5 years of working tenure with the current employer. In the last, 35 (8.1%) respondents had monthly salary up to PKR 25,000, 73(16.9%) had salary from PKR

25,001-40,000, 92 (21.2%) had a monthly salary of PKR 40,001-55,000, 114 (26.3%) belonged to salary class of PKR 55,001-70,000, and the remaining 119 (27.5%) respondents had monthly salary above PKR 70,000.

Measures

We assessed EL with the help of the EL questionnaire developed by Ahearne et al. (2005). For the assessment of PE, we used questionnaire 1 designed by Spreitzer (1995). HPWS was assessed with the measurement scale designed by Snell and Deans (1992). For the measurement of employees' IWB, we followed the IWB scale developed by De et al. (2010). Internal consistency scores for EL, PE, HPWS, and IWB were .72, .76, .66, and .79, respectively. A 5-points Likert scale was used to collect the responses ranging from strongly disagree (1) to strongly agree (5).

Control Variables

The study controlled the demographics such as gender, age, tenure, and education due to the assumption that they have a significant direct relationship with employees' IWB. Researchers ran a statistical analysis using the above-mentioned demographic factors of employees as control variables and found steady results in both cases. Thus, the study results are reported as control free.

Data Analysis and Results

The study used a statistical package for social sciences (SPSS) for the analysis of data and testing the hypotheses. Table 1 shows the descriptive statistics regarding the respondents' demographic information and the results of the correlation analysis. Cronbach's Alpha was used for the confirmation of reliability; all the values were within an acceptable range (as mentioned in the previous section). Regression analysis (hierarchical linear) was applied to test the direct effects of EL on IWB, the mediating effects (Baron and Kenny, 1986) of PE between the relationship of EL and IWB, and the moderated mediation (Preacher et al., 2007) of HPWS between the relationship of EL and PE.

The correlation between all the key variables of the study was statistically significant. It provides the initial evidence for the establishment of all hypothesized relationships of the study. In the case of the control

variables, apart from gender (which showed no relationship with any variable of the study), all demographic factors had a relationship with some of the study variables, as shown in Table 1.

Table 1

Descriptive Statics, Reliability and Correlation Scores

Variables	Mean	S.D.	1	2	3	4	5	6	7
1. Gender	-	-							
2. Age	1.71	.95	.48						
3. Qualification	-	-	-.07	.18**					
4. Tenure	2.98	.60	.02	.66**	.16**				
5. EL	4.11	.38	.04	.21**	.11*	.22**	(.72)		
6. PsyEmp	4.07	.40	-.06	.09	.07	.09	.52**	(.76)	
7. HPWS	3.35	.36	.06	.03	.05	-.01	.27**	.10*	(.66)
8. IWB	4.12	.35	.09	.15**	.13**	.09	.28**	.33**	.41** (.79)

Notes. Age, qualification and tenure of the employees is in years; Cronbach’s alpha reliability scores are reported in parentheses * $p < 0.05$, ** $p < 0.01$

The first hypothesis postulated that EL positively affects employees’ IWB. The results depicted in Table 2 confirms that EL is positively related to employees’ IWB ($\beta = .22$, $p < .01$). These results empirically support hypothesis 1.

Table 2

Hierarchical Regression Results for Mediation Analysis

Variables	IWB			PsycEmp	
	Model 1	Model 2	Model 3	Model 4	Model 5
Gender	.06	.09*	.08*	-.08*	-.08*
Age	.04*	.04*	.04	.01	.01
Education	.05*	.05*	.05*	.01	.01
Tenure	-.03	-.02	-.03	-.02	-.02
EL	.22**		.09*	.54**	.51*
PsyEmp		.28**	.24**		
HPWS					1.38**
EmpLead*PsyEmp					.33**

Variables	IWB			PsycEmp	
	Model 1	Model 2	Model 3	Model 4	Model 5
Adj R ²	.10	.14	.15	.26	.28
F Value	9.86**	17.05**	13.25**	31.95**	24.10**
ΔR^2	.07	.11	.11	.25	.03

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Hypothesis 2 posited that PE is a significant mediator between EL and employees' IWB. Following the approach used by Baron and Kenny (1986) to test mediation effects, our study revealed (see Table 2) that EL significantly impacts employees' IWB (hypothesis 1), and also has a significant relationship with employees' PE ($\beta = .54$, $p < .01$) (see model 4 in Table 2). It was also identified that PE significantly impacts IWB of employees ($\beta = .28$, $p < .01$) (see model 2 in Table 2). Putting together in the regression model, EL and PE (see Model 1 and Model 3 in Table 2) remained significantly related with each other, which indicates that the relationship between EL and IWB is partially mediated by PE. Sobel test also confirmed the mediation effect of PE ($p < 0.05$). Thus, hypothesis 2 is supported. Hypothesis 3 assumed that the relationship between EL and PE was moderated by HPWS. The moderated mediation effect was assessed by using the same approach used by Muller et al. (2005) and Preacher et al. (2007). The results (Table 3) revealed that HPWS significantly affected the relationship between EL and employees' PE. Thus, hypothesis 3 is also supported.

For testing hypothesis 4, we measured the extent of the conditional indirect effect of EL on employees' IWB through PE. We found that the conditional indirect effect was different at different levels of HPWS. For this purpose, we followed Preacher et al. (2007) and calculated the z statistic for measuring the conditional indirect effect of EL on IWB through PE. The results (Table 3) revealed that HPWS has significant indirect effects on the relationship of EL and IWB. Thus, hypothesis 4 is supported. Figure 2 shows the interaction effect plot (the moderation relationship plot).

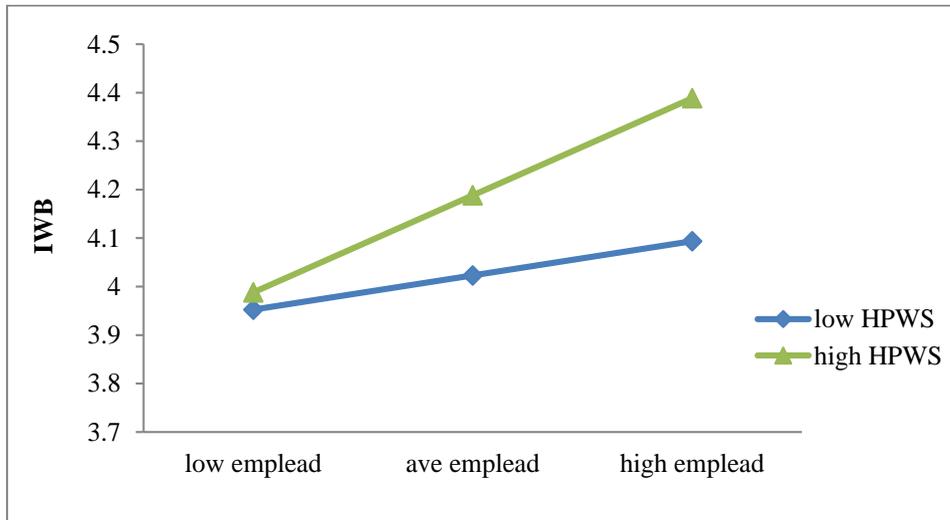
Table 3

Moderated Mediation Results for PE across Levels of HPWS on IWB

		<u>IWB</u>			
<i>Moderator</i>	<i>Level</i>	<i>Conditional Indirect Effect</i>	<i>SE</i>	<i>Z</i>	<i>P</i>
HPWS	Low	0.06	0.04	0.86	0.03
	High	0.21	0.05	3.38	<0.01

Figure 2

Moderation Relationship Plot



Discussion

This study analyzed how EL affects the IWB of software engineers in Pakistan. The findings implied that there is a positive association between EL and IWB of software engineers in Pakistan. The results are in line with the results of past studies (Jada et al., 2019; Lee & Wu, 2017), which reported that EL has a significant positive effect on engineers’ IWB in the workplace. The results also showed that the positive association between EL and employee IWB has several implications. For instance, when leaders encourage subordinates to be self-guided, they exhibit increased IWB at the

workplace; employees who can take initiative, assume responsibilities, and organize tasks to attain organizational goals (Sims Jr et al., [2009](#)).

The findings revealed that employees' PE plays an intervening role in enhancing their IWB. They also showed that HPWS positively moderates the relationship between EL and employees' PE. It was also found that when EL had a positive effect on employees' IWB, it was mediated by HPWS. Moreover, when the association between EL and IWB was weaker, HPWS was low. These results confirm the findings of past research with regard to the mediators and moderators of the relationship of EL and IWB (Cheong et al., [2016](#); Lee et al., [2017](#)). Hence, in organizations where HPWS is low, EL has a weak association with employee PE. This argument suggests that when employees experience problems with high performing human resource practices, it is possible that EL is not being appropriately used to achieve better job-related attitudes and behaviors. Therefore, the results of the current research emphasize the significance of providing adequate attention to both EL and high performing HR practices to enhance employees' IWB. Thus, this research explained *when* (situational boundary condition) and *how* (underlying mechanism) empowering leaders can enhance employee IWB (Afsar & Umrani, [2019](#)) with respect to both situational boundary condition (HPWS) and underlying mechanism (PE).

Theoretical Implications

This study contributes to the literature that examines the relationship between EL and employees' IWB. Although the researchers have investigated the relationship between EL and IWB (Jada et al., [2019](#); Lee & Wu, [2017](#)), little is understood about the underlying mechanisms that can enhance the relationship between EL and employees' IWB. For this reason, in this study, it was identified that EL positively affects employees' attitudes and behaviors (Park et al., [2017](#)) as well as organizational performance (Carmeli et al., [2011](#)) by strengthening the follower-leader association. Employees' IWB has been examined mostly in the follower-leader dyadic setting (Wang et al., [2015](#)), however, little research has been done on how employees' PE may serve as an intervening mechanism in this context. The results of this research suggest that EL promotes employees' PE, which has a significant association with IWB. Moreover, this study highlights the significant role of HPWS as a situational boundary condition that underpins

(or undermines) the expected results in a high EL. The findings of this study imply that when employees work in a high HPWS, they respond more positively to the support and resources received from their leaders. Thus, the effect of EL on employee PE is significant when organizations have HPWS. Contrarily, workplace environments with low HPWS would perceive EL as less significant since they would not need to enhance work performance, employees' PE, or IWB due to a lack of interrelated human resource practices. The contextual attributes of workplace have an imperative influence on leadership effectiveness and outcomes. The use of a complete moderated mediation model in this research suggests that the extent to which employees' PE mediates the association between EL and employees' IWB depends upon HPWS. Although, previous research has confirmed that personal and situational characteristics are vital for leadership and IWB (Harris et al., [2014](#)), this study comprehensively explicates the relationship between the leaders' behavior (EL) and subordinates' psychological dispositions (PE) using HPWS as a situational boundary condition with regards to employees' IWB.

Managerial Implications

Due to the significance of IWB in eliciting individual-level and firm-level positive outcomes, practitioners require a thorough understanding of how to promote employees' IWB (Schuh et al., [2018](#)). This research, in this regard, attempts to provide useful recommendations for managers. First, consistent with the conceptual narrative and empirical comprehension in the Western culture (Cheong et al., [2016](#)), this research states that EL is positively associated with employees' IWB in the South Asian context. As a result, this research recommends that software firms in South Asia need to establish and instill tendencies of EL among managers to improve engineers' IWB. Moreover, in agreement with the results of Jada et al. ([2019](#)), EL is also considered to be useful in other occupations and sectors. Secondly, in order to accelerate employees' IWB, firms require to capture different facets of IWB (i.e., individual organizational and contextual), instead of focusing only on individual factors. Owing to the findings of this study, it can be suggested that in a high HPWS context, EL greatly improves employee PE and creativity. In a low HPWS context, employees' IWB solely depends upon leaders' behavior and their own PE. Thus, in a high

HPWS context, EL is more valuable in increasing IWB via the mechanism of PE. In this regard, software engineering firms are recommended to establish HPWS in order to foster IWB of software engineers.

Limitations and Future Guidelines

Although this research offers a better understanding of the relationship between EL and employees' IWB, further research should be carried out to have a better understanding of how different variables affect IWB. Previous studies report that job characteristics (Černe, [2017](#)) and employees' personal attributes (Clarke & Higgs, [2019](#)) also affect IWB. For this reason, it is suggested that future researchers should consider job characteristics as a situational boundary condition and employees' attributes as a personal boundary condition. Additionally, this research utilized underlying psychological mechanisms (PE) to describe the effect of EL on employees' IWB; however, future researchers may consider other relational mechanisms to study the relationship between the EL and IWB. Third, researchers may utilize the framework of this study to investigate whether these findings are applicable in other countries. Sufficient evidence is available to show that the dynamics of manager–subordinate relationship are different in Asian and European contexts (Oh et al., [2014](#)). Precisely, the relationship between EL and IWB might be significantly different, especially in the presence of high HPWS within South Asian countries as compared to the Western countries. Taking this into consideration, further studies may collect data from diverse cultural settings. Finally, this study calls for further research to examine the EL-IWB linkage in the perspective of other contextual and personal boundary conditions.

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