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The Impact of Perceived Organizational Support on Innovative Work Behaviour Through Psychological Empowerment: Focusing on the Moderated Mediating Role of Organizational Procedural Justice

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Abstract: Although much research demonstrates that perceived organizational support (POS) enhances employee innovation (IWB), it is worth pointing out that relatively little attention has been assigned to the roles of employees' psychological empowerment and organizational procedural justice that underlie the association between perceived organizational support and innovative behaviors. To answer this question, we hypothesized psychological empowerment as a possible mediator in the relationship between POS and IWB and organizational procedural justice as a possible moderator that influences the indirect effect of POS on IWB through psychological empowerment based on the review of the literature. The data collected from 350 employees working in Korean organizations were employed in the latent moderated structural equation (LMS) analysis. The results suggest that POS was directly correlated to psychological empowerment. Moreover, POS was not directly correlated to IBW, but it indirectly influenced IBW through psychological empowerment. The results also suggest the moderated mediating effect of organizational procedural justice in the impact of POS on IWB through psychological empowerment. Based on these findings, it would seem that creating positive organizational climates valuing contributions of individuals and caring about their well-being is important in organizations. In addition, making an effort for the provision of procedural justice, including creating transparent organizational culture, can inspire and enhance employee's IWB.

Keywords: Perceived organizational support, employee work behavior, psychological empowerment, organizational procedural justice, latent moderated structural equation

1. Introduction

The increasing speed and scope of change in current global markets yields a high level of uncertainty and fierce competition among organizations in business sectors (Verbeke, 2020). To overcome these challenges and maintain a profitable business, organizations are making significant efforts to become more creative and innovative. As innovation, which refers to the successful implementation of creative ideas, is essential for organizations to survive and thrive, a growing number of scholars and practitioners in the field of human resource development (HRD) and technical and vocational education and training (TVET) have been paying attention to this topic and have explored the key influences of innovation (Osman & Kamis, 2019). What encourages employees to exhibit a high level of innovation in the workplace? It is clear from the innovation literature that external environmental factors, such as organizational innovation climate (Waheed, Miao, Waheed, Ahmad, & Majeed, 2019), work resources (Rasulzada & Dackert, 2009), and leadership, such as innovative and transformative leadership (Afsar & Umrani, 2019; Osman & Kamis, 2019), are vital preconditions for innovative outcomes.

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One such important source that has been suggested in the existing literature as an antecedent of innovative behavior is supportive work environments-namely, perceived organizational support (POS; Eisenberger, Huntington, Hutchison, & Sowa, 1986). Several researchers found that employees' perceptions concerning the degree to which the organization values their contributions and cares about their well-being can have positive influences on innovative work behavior (IWB; e.g., Eisenberger, Fasolo, & Davis-LaMastro, 1990; Young, 2012). From the perspective of social exchange theory and the norm of reciprocity (Blau, 1964; Gouldner, 1960), employees who feel a great amount of received favourable support or resources from their organization are more likely to want to reciprocate for this personal care by performing better and going beyond their role expectancies or duties in their jobs. According to Eisenberger et al. (1990), based on POS, employees may "judge the potential gain of material and symbolic benefits that would result from activities favoured by the organization" (p. 52). A recent meta-analytic study on examining antecedents and consequences of POS revealed that POS created various positive outcomes (e.g., organizational citizenship behaviors, in-role job performance), because the full support provided by an organization to its employees "fulfils socioemotional needs, resulting in greater identification and commitment to the organization, an increased desire to help the organization succeed, and greater psychological well-being" (Kurtessis et al., 2017, p. 1855).

Although much research demonstrates that favourable work environments (i.e., POS) support employee innovation, it is worth pointing out that relatively little attention has been assigned to the roles of employees' psychological empowerment and organizational procedural justice that underlie the association between POS and IWB. Based on the extant literature on innovative behavior, psychological empowerment and organizational procedural justice plays an essential role in the exhibiting innovative work behaviors of employees as a driver (Bhatnagar, 2012; Nazir, Shafi, Atif, Qun, & Abdullah, 2019; Yildiz, Uzun, & Coşkun, 2017). In this way, we therefore propose psychological empowerment as a possible mediator in the relationship between POS and employee's IWB. Moreover, we hypothesize the underlying process through which POS leads to IWB is stronger when the level of organizational procedural justice is high.

The current article is organized as follows: We first reviewed extant literature related to the association between POS and IWB with a basis of Blau's (1964) social exchange theory. Next, we explained the mediator role of psychological empowerment and the moderated mediating role of organizational procedural justice in the POS-IWB relationship. After that, we describe methodology and findings. Lastly, we included academic and practical implications, conclusions, and limitations.

2. Conceptual Background and Hypotheses

2.1. Perceived Organizational Support (POS)

POS refers to employees' general beliefs about whether the organization values employees' contributions and cares about their well-being (Eisenberger et al., 1986). Examples of supports from the organization include crafting employees' jobs to make them interesting, demonstrating concern about employees' personal values and goals, and showing appreciation and recognition of employee achievement. The conceptualization of POS adopted the social exchange perspective, which supposes that when one person treats another well, one expects a return of favourable treatment based on a reciprocity norm and finally expects beneficial results for both parties (Blau, 1964; Gouldner, 1960). In an organizational context, this social exchange relationship can be generated between employees and the employer. That is, employee perceptions on being highly regarded and appreciated by the organization, such as receiving a promotion, pay, approval, and access to information, and other forms of resources that support their job performance, contribute to a person feeling a strong obligation to return the care to their organization. As a result, employees are more likely to display positive employee attitudes and behaviors by pursuing organizational objectives (e.g., a high level of organization commitment, increased performance, identification, and reduced absenteeism) (Chan, 2017; Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002; Kurtessis et al., 2017; Rhoades & Eisenberger, 2002).

2.2. Psychological Empowerment

Psychological empowerment describes an individual's active intrinsic motivational state that reflects an employee's sense of control over their work roles (Spreitzer, 1995; Thomas & Velthouse, 1990). Psychological empowerment differs from structural empowerment in that psychological empowerment focuses on individuals' perceptions or psychological experiences of empowerment, whereas structural empowerment is concerned with the actual transition or delegation of decision making from upper levels to lower ones (Maynard et al., 2013). Drawing on previous research on psychological empowerment, including Thomas and Velthouse (1990), Spreitzer (1995, 1997) initially developed a multifaceted conceptualization of psychological empowerment consisting of four underlying cognitions: meaning, competence, self-determination, and impact. First, meaning refers to the value that a person places on his or her work, that is, the individual's perception of the meaningfulness of the work (Butts, Vandenberg, DeJoy, Schaffer, & Wilson, 2009; Spreitzer, 1995). Competence (interchangeably called "self-efficacy") is the degree to which individuals believe themselves to be competent and have essential skills to perform their jobs well (Pieterse, Van Knippenberg, Schippers, & Stam, 2010; Spreitzer, 1995, 1997). Self-determination refers to individuals' perception of having a choice to perform and control behaviors related to their work activities (Pieterse et al., 2010; Spreitzer, 1995, 1997). Highly self-determined employees can have high levels of job autonomy so that they tend to initiate and determine their work processes and

methods (Spreitzer, 1995). Finally, impact refers to the extent to which an individual is able to influence organization-related outcomes and work environments (Spreitzer, 1995, 1997). According to Spreitzer (1995), for employees to be empowered and actively carry out their job roles, the four distinctive dimensions of psychological empowerment are equally essential, and no single dimension captures the various features of psychological empowerment.

2.3. Innovative Work Behavior (IWB)

Innovation as a behavioural aspect is regarded as a multi-stage process of identifying problems, generating ideas, and obtaining support for and implementing those ideas (Pieterse et al., 2010; Scott & Bruce, 1994). Similarly, Janssen (2000) defined IWB as "the intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit role performance, the group or the organization" (p. 288). Janssen (2000) also claims that IWB includes complex behavior processes, which means multiple dimensions that consist of idea generation, idea promotion, and idea realization. First, idea generation refers to the generation of novel and useful ideas and it is often encouraged by employees' intentional efforts, such as awareness of the problematic issues, incongruities, and discontinuities (Janssen, 2000). Second, idea promotion is defined as interpersonal activities that an individual engages in to promote ideas to people involved. Third, idea realization refers to the production of a prototype or model as a visualized subject of the innovative ideas. People would expect the result of the innovation by experiencing a prototype or model though idea realization (Janssen, 2000).

Because innovation has been more and more important in the recent business environment compared to the past, employee's innovative behaviors has gained considerable attention. Particularly, many researchers have endeavoured to uncover factors that encourage innovative work behaviors and found that both individual characteristics (e.g., personality and motivation) and external environments (e.g., learning organization, organizational culture, and leadership) could significantly hinder or enhance innovative work behaviors for employees (Park, Song, Yoon, & Kim, 2014).

2.4. Organizational Justice

Organizational justice has gained considerable attention since it was regarded as one of the vital factors that contribute to formation of employees' positive behaviors at the workplace. According to scholars in organizational literature, organizational justice refers to the employees' perceived fairness of the treatment by organizational authorities (Akram, Lei, Haider, & Hussain, 2020). Theoretically, organizational justice consists of multiple domains, including distributive, procedural, and interactional justice. Distributive justice is defined as employees' perceptions regarding fair distribution, and is mainly related to resource allocation and result of resource allocation, such as promotion and financial rewards. Procedural justice is defined as employees' perceptions regarding organizations' policies and procedures related to decision making (Colquitt, 2001; Nazir et al., 2019). Interactional justice refers to employees' perceptions regarding the fairness of the quality of interpersonal relationships and communication (Akram et al., 2020). Multiple previous studies on organizational justice investigated that when an organization was perceived to be fair by the employees, the employees were more likely to exhibit superior job performance and positive attitudes towards their work and organization (e.g., organizational commitment, knowledge sharing, and innovative behavior) (Akram et al., 2020; Imamoglu, Ince, Turkcan, & Atakay, 2019). Particularly, organizational procedural justice, one of the main research variables in this study, was turned out to be an important factor in the current literature that it has a strong and positive impact on employee's active intrinsic motivational state (Kim, & Beehr, 2020).

2.5. The Relationships Among POS, Psychological Empowerment, and IWB

We propose that POS will be positively related to psychological empowerment and IWB. Based on the organizational support theory, according to Eisenberger and Stinglhamber (2011), individuals' socio-emotional needs (e.g., esteem, emotional support, and organizational membership), which are regarded as fundamental psychological conditions that enhance employees' intrinsic motivation to work, can be fulfilled by high levels of POS. In addition, considering the social exchange and the norm of reciprocity (Blau, 1964; Gouldner, 1960), high levels of POS motivate employees to reciprocate the support from their organization with quality output, leading to a positive attitude and behaviors for their organization. Thus, when they have a strong feeling of reciprocity toward their organization and supervisor, employees may actively embrace their job roles, proactively control their behaviors related to the work, and positively influence their working environment (i.e., psychological empowerment). According to Thomas and Velthouse (1990), the extent to which employees are psychologically empowered is not only influenced by external factors, but is also affected by how employees perceive and infer the external environments offered. Kang and Lee (2017) empirically confirmed this assertion in their study that Korean employees' POS had a significant positive impact on psychological empowerment. Therefore, we posit the following:

H1: POS will be positively related to psychological empowerment.

When it comes to the relationship between POS and IWB, employees who have novel ideas and intend innovative changes in the workplace might face co-workers' resistance to change and violate established work systems. Thus, for them to continue challenging existing paradigms and evolving and implementing their ideas in the workplace, the presence of job resources such as support from an organization is essential (Agarwal, 2014; Janssen, 2005; Young, 2012).

In other words, employees having POS, the imperative job resources for developing employees' intrinsic motivation, would perform beyond prescribed role expectations and put forth extra effort due to their enjoyment of facing challenges in order to effect change. Previous researchers found positive associations between employees' perceptions on organizational support and IWB (Agarwal, 2014; Young, 2012); however, as pointed out earlier, the literature offers little information about the mechanisms underlying this relationship. Taken together, we hypothesize the following:

H2: POS will be positively related to IWB.

Furthermore, we posit that a high level of psychological empowerment has a positive impact on IWB. As Bhatnagar (2012) stated, "there is sparse literature linking how innovation implementation happens in the workplace and its linkage to workplace attitudes and psychological processes" (p. 929). Psychological empowerment, according to Singh and Sarkar (2012), promotes employees' innovative behaviors by aligning their tasks with their self-concepts and cognitive engagement with their jobs (job involvement). Similarly, Bhatnagar's (2012) study conducted in an Indian context revealed that psychological empowerment led to innovation via work engagement. Another empirical study on exploring the influence of empowerment practices on employees' innovation conducted among U.S. federal government employees revealed that empowerment practices (i.e., provision of access to job-related knowledge and skills and the opportunity to exercise discretion to change work processes) significantly encouraged employees to innovate (Fernandez & Moldogaziev, 2012). Therefore, we posit the following:

H3: Psychological empowerment will be positively related to IWB.

2.6. The Mediating Role of Psychological Empowerment

We also argue that POS brings about positive effects on IWB, because they lead to higher levels of psychological empowerment. When employees receive positive support from an organization, they feel psychologically more empowered in their work, presenting high levels of meaningfulness in their work (meaning), essential skills for the job (competence), significant influence on their jobs (impact), and greater control over their work-related situations (self-determination) (Iqbal & Hashmi, 2015). In return, highly empowered employees reciprocate their organizational care and support through enhanced job involvement and innovative actions (Singh & Sarkar, 2012). Iqbal and Hashmi's (2015) empirical investigation on the mediating effect of psychological empowerment in the relationship between POS and organizational outcomes revealed that an individual with POS exhibited a higher level of psychological empowerment, leading to increased employee retention. Schermuly et al. (2013) also confirmed that psychological empowerment mediated the effects of leader-member exchange relationships on innovative behavior, which implies the significance of a supervisor's role, such that emotional support and trust of the supervisor encouraged subordinates to confront new challenges for innovation. Additionally, Bhatnagar (2014) found that a psychological contract was a strong mediator between perceived supervisor support and innovation, indicating that intermediate psychological processes would greatly affect the relationship between POS and innovation. Taking into consideration this combined evidence, we hypothesize the following:

H4: Psychological empowerment will mediate the influence of POS on IWB.

2.7. The Moderated Mediating Role of Organizational Procedural Justice

We further expected organizational procedural justice to moderate the underlying mechanism in which POS leads to IWB via psychological empowerment. According to organizational support theory, employees' perceptions concerning the degree to which the organization values their contribution and care (POS) can be largely formed by organizational humanlike traits (Eisenberger & Stinglhamber, 2011; Kim, Eisenberger, & Baik, 2016). This is because, in order for the organization to be viable, it must create rules, policies, and cultures; take moral and financial responsibility; and exert power over employees. These humanlike characteristics (personification of the organization) cause employees to perceive the organization as a powerful humanlike entity having negative or positive orientation towards them (Kim et al., 2016; Rhoades & Eisenberger, 2002). Therefore, offering personal and humane human resource practices and decisions provided by the organization is critical for employees to fulfil the socio-emotional needs, which in turn encourages them to exert proactive behaviors in the workplace (Chiang & Hsieh, 2012; Wayne, Shore, & Liden, 1997). In a similar vein with the linkage of organizational support (POS) to employees' positive attitudes and behaviors, employees' perceptions regarding fairness of the policies and procedures in the organization, termed organizational procedural justice, is also regarded as an important factor for IWB based on similar processes. When the organization seriously cares about fairness in the decision-making process, employees are more likely be engaged in proactive and innovative behaviors (e.g., changing the status quo and transforming the novel ideas into applications) since employees recognize that their innovative behaviors may receive support and recognition. On the contrary, if there exist no formal and transparent policies and procedures that protect employees' risk-involving behaviors, their level of trust and confidence toward the organization is less prone to lead to innovative actions although they receive organizational support in their job. Taken together, since performance beyond the job description, especially IWB, is closely related to the fairness of policies and procedures in the organization, organizational procedural justice will moderate the influence of POS on IBW through psychological empowerment.

H5: The mediating effect of POS on IWB through psychological empowerment will be moderated by organizational procedural justice.

3. Methods

The current research aims to investigate the structural relationships among perceived organizational support, procedural justice, psychological empowerment, and innovative work behavior in Korean organizations. To examine the research hypotheses, the research model was suggested based on extant literature (see figure 1) and analysed through structural equation modeling (SEM).

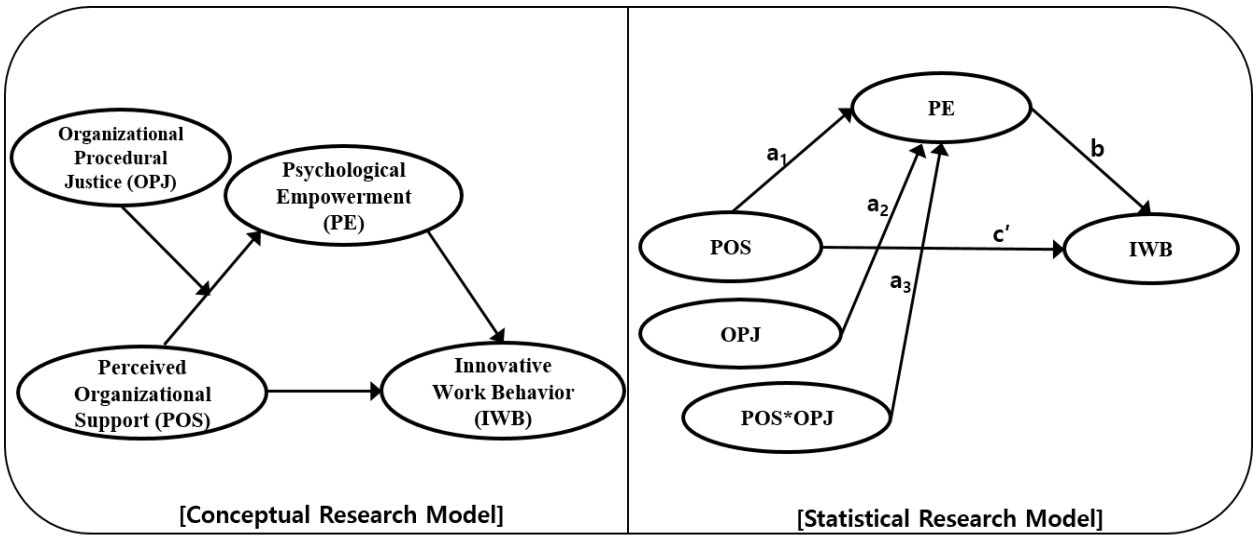

Fig. 1 - Proposed research model

3.1. Sample and Procedure

The target population for the current study was full-time employees in for-profit organizations in South Korea. We used a perceptual self-report approach in this study. Questionnaires were produced using an online survey domain. A link of the online survey developed in Korean was distributed by a professional survey company to collect adequate data including diverse industries and job areas; a link was sent to potential participants who agreed to receive the questionnaires from the professional survey company. As a result, a total of 350 complete responses were included in the final data set.

Participants' demographic information, gender, age, education level, field of operation, job area, and length of current company employment were collected for all complete responses. Approximately 78.9% were men and 45.1% were in their 40s. Most participants held an undergraduate degree (60.6%) followed by a graduate degree (16.0%) and a two-year college degree (15.1%). Many participants (30.6%) worked in the manufacturing industry, followed by service (19.4%), IT/Communications (11.4%), and construction (10.9%). For job areas, 39.1% of the participants worked in management support, followed by R&D (13.7%), marketing/sales (11.7%), manufacturing (10.0%), and IT/internet (8.6%). Finally, 36.3% worked in their current organizations less than 6 years, 26.9% worked between 6 and 10 years, and 16.0% worked between 11 and 15 years.

3.2. Measures

All measures selected to assess the four research variables were previously validated scales in a Korean context. All measures used a 7-point Likert-type scale (0 = strongly disagree to 6 = strongly agree), except the construct of procedural justice, which used a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree).

POS was assessed with the six items of the short version of the Survey of Perceived Organizational Support (SPOS) (Eisenberger et al., 1986). The short versions of SPOS had a good internal consistency (Cronbach's alpha = .88; Eisenberger et al., 2002) and have been frequently validated in a Korean context (e.g., Back, 2006). A sample item is "My organization values my contribution to its well-being."

Organizational procedural justice (OPJ) was assessed with seven items of formal procedural justice using a 5-point Likert-type scale developed by Moorman (1991). A sample item is "My organization uses procedures designed to collect accurate information necessary for making decisions." The Cronbach's alpha for this measurement varied from .92 in the previous study (Kang, Song, & Kim, 2012).

Psychological empowerment (PE) was measured with 12 items from Spreitzer's (1995) study. This scale is characterized by four subscales assessing the following dimensions of psychological empowerment: meaning (e.g., "The

work I do is very important to me"), competence (e.g., "I am confident about my ability to do my job"), self-determination (e.g., "I have significant autonomy in determining how I do my job"), and impact (e.g., "I have significant influence over what happens in my department"). The Cronbach's alpha levels across four sub-dimensions equalled or exceeded α = .77 in a previous study (Liden, Wayne, & Sparrowe, 2000). We conducted item parcelling of psychological empowerment due to the large number of items in the measurement part of our research. As a result of confirmatory factor analysis (CFA) of the parcelled model with four items of meaning, competence, self-determination, and impact, the fit indices fell within an acceptable range (RMSEA = .044, CFI = .996, NNFI = .995, SRMR = .049). Although the SB scaled chi-square value was statistically significant (χ^2 (50) = 86.038, $p < .001$), other results were statistically acceptable: All fit indices were acceptable, all factor loadings in the model were statistically significant ($|t| > 1.96$, $p < .05$), and signs and magnitudes of parameter estimates were reasonable by not presenting out-of-bound estimates ($r < 1$) and negative error variances. Given that, we used the parcelling model of psychological empowerment in the current study.

IWB was measured using a nine-item measurement developed by Janssen (2000). This instrument measures three dimensions of IWB: generation of a new idea, acquisition of support from others, and transformation of an idea into an application. The Cronbach's alpha was .92 (Agarwal Datta, Blake-Beard, & Bhargava, 2012). A sample item is "I am generating original solutions for problems." We also performed item parcelling of IWB. The results of CFA of the model parcelled with three items showed that although the SB scaled chi-square value was statistically significant (χ^2 (24) = 59.596, $p < .001$), other overall fit indices met cut-off criteria (RMSEA = .063, CFI = .995, NNFI = .992, SRMR =.025). Furthermore, there were no indications of possible improper solutions, regarding all signs and magnitudes of parameter estimates, negative error variance, and out-of-bound estimates ($r < 1$). Therefore, we adapted the parcelling model of IWB.

3.3. Data Analysis

The purpose of this research is to investigate the structural relationships among four latent variables, including the direct and mediating effects as well as the moderated mediating effect (i.e., conditional indirect effect). Thus, we examined the research hypotheses through the latent moderated structural equation (LMS) approach by following a three-step procedure (Cheung & Lau, 2017). The first step is to evaluate if the model without the latent interaction term (POS* OPJ) has adequate overall fit indices including χ^2, RMSEA, SRMR, CFI, and TLI (χ^2 [$p > .05$], RMSEA ≤ .10, SRMR ≤ .08, CFI ≥ .90, TLI ≥ .90; Bae, 2014) and significant factor loadings ($|t| > 1.96$, $p < .05$) with their 95% bias-corrected confidence intervals (BCCIs). The second step is to assess the model including the interaction term with estimated effects and their BCCIs; the final step is to estimate the moderated mediation effect of POS on IWB at various levels of moderator (OPJ) to examine the moderated mediation effect (Cheung & Lau, 2017; Hayes & Preacher, 2013). To test research hypotheses, this research focused on unstandardized estimates of path coefficients of the direct, mediating, moderated mediating effects and their 95% BCCIs.

4. Results

4.1. Reliability, Correlations, and Common Method Bias Test

Means, standard deviations, reliabilities, and bivariate correlations among all latent variables are presented in Table 1. When it comes to reliability, the Cronbach's alpha ranged from .922 to .958, indicating good internal consistency (Urdan, 2010). With regard to the correlations, all of the bivariate correlations among research constructs ($|r| < .85$) showed no issue of multicollinearity (Lei & Wu, 2007). With respect to the normality of the data, considering that values of skewness and kurtosis of each variable were within the criteria (-.0.616<skewness < -0.178, -0.070<kurtosis <0.940), this study utilized maximum likelihood (ML) (Finney & DiStefano, 2013). We also performed CFA for the single factor model to check potential issues related to the common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The results of fit statistics revealed a poor fit with our data (χ^2 (527) = 5422.379, $p < .001$; RMSEA = .163; TLI = .550; CFI = .578; SRMR = .125), implying that the common method bias seems not to be problematic in our data. In addition, because the existing empirical studies have validated all measurements used in this research, we utilized the facet-representative parcelling for multidimensional constructs (i.e., PE and IWB) and the single-factor analysis parcelling for unidimensional constructs (i.e., POS and OPJ) as item-parcelling strategies to optimally represent these latent constructs (Kim, 2016; Little, Rhemtulla, Gibson, & Schoemann, 2013).

Table 1 - Basic descriptive statistics, reliabilities and correlations

	M	***SD***	***α***	**1**	**2**	**3**	**4**
OPJ	2.834	0.730	.922	1			
POS	3.097	1.229	.955	.691	1		
PE	3.815	0.971	.944	.433	.665	1	
IWB	3.594	0.987	.958	.433	.626	.818	1

Note. *M* = mean; *SD* = standard deviation; α = Cronbach's alpha; OPJ = Organizational Procedural Justice, POS = Perceived Organizational Support, PE = Psychological Empowerment, IWB = Innovative Work Behavior; All correlations are significant at the 0.05 level.

4.2. Model Evaluation

As suggested by Cheung and Lau (2017), this research implemented a three-step procedure to analyse the moderated mediation model by using the LMS approach. For the first step, the research model without the latent interaction term (POS*OPJ) as the baseline model was estimated to assess its adequate model fit and significant factor loadings. As shown in the results of the overall fit statistics for the baseline model (M1) in Table 2, even though the chi-square of M1 was statistically significant (χ^2 (60) = 197.062, $p < .001$), other fit indices met the criteria (RMSEA = .081, CFI = .969, NNFI = .960, SRMR = .036; see Figure 2). In addition, because 95% BCCIs for all of the factor loadings in Table 3 did not include zero, all of the factor loadings were statistically significant. Taken together, it can be concluded that M1 fit the data well and all indicators in M1 measured the constructs well, which can move to the second step.

Table 2 - Fit statistics for baseline model without latent interaction

Model	χ^2 (*df*)	RMSEA	CFI	TLI	SRMR
Baseline Model (M1)	χ^2 (60) = 197.062, $p < .001$	.081	.969	.960	.036

Table 3 - Factor loadings and bias-corrected confidence intervals for baseline model (M1)

Factor Loadings for POS by						
	Estimate	***SE***	***t* value**	***p* value**	**95% BCLL**	**95% BCUL**
X1	1.000	-	-	-	-	-
X2	1.073	0.030	35.938	.000	1.017	1.135
X3	1.053	0.280	37.009	.000	0.998	1.110
Factor Loadings for OPJ by						
	Estimate	***SE***	***t* value**	***p* value**	95% BCLL	95% BCUL
W1	1.000	-	-	-	-	-
W2	1.049	0.045	23.399	.000	0.963	1.139
W3	1.106	0.043	25.983	.000	1.028	1.192
Factor Loadings for PE by						
	Estimate	***SE***	***t* value**	***p* value**	95% BCLL	95% BCUL
M1	1.000	-	-	-	-	-
M2	0.874	0.058	15.154	.000	0.760	0.985
M3	1.061	0.077	13.870	.000	0.928	1.223
M4	1.055	0.090	11.664	.000	0.883	1.237
Factor Loadings for IWB by						
	Estimate	***SE***	***t* value**	***p* value**	95% BCLL	95% BCUL
Y1	1.000	-	-	-	-	-
Y2	1.107	0.041	26.948	.000	1.034	1.198
Y3	1.069	0.043	24.581	.000	0.989	1.159

Note. OPJ = Organizational Procedural Justice, POS = Perceived Organizational Support, PE = Psychological Empowerment, IWB = Innovative Work Behavior; BCLL = lower limit of bias-corrected confidence interval; BCUL = upper limit of bias-corrected confidence interval.

For the second step, the research model with the latent interaction term was estimated to assess the index of moderated mediation (i.e., Index MM = a_3b) with 1,000 bootstrap samples and the BC bootstrap confidence intervals (see figure 2). As demonstrated in Table 4, the regression coefficient a3 (POS*OPJ → IWB) was statistically significant with 0.149, 95% CI [0.001, 0.281], and the regression coefficient b (PE → IWB) was statistically significant with 0.712, 95% CI [0.504, 0.895]. The estimated Index MM (a_3b) was also significant with 0.106, 95% CI [0.005, 0.201], but the regression coefficient c' (POS → IWB) was not statistically significant with 0.119, 95% CI [-0.037, 0.303].

Table 4 - Estimated effects and bias-corrected confidence intervals for moderated mediation model (M2)

	Effect	***SE***	***t* value**	***p* value**	**95% BCLL**	**95% BCUL**
POS → PE (a_1)	0.569	0.068	8.341	.000	0.434	0.704
OPJ → PE (a_2)	-0.057	0.103	-0.552	.581	-0.260	0.141
POS*OPJ → IWB (a_3)	0.149	0.072	2.082	.037	0.001	0.281
POS → IWB (c')	0.119	0.085	1.392	.164	-0.037	0.303
PE → IWB (b)	0.712	0.099	7.206	.000	0.504	0.895
Index MM (a_3b)	0.106	0.050	2.120	.034	0.005	0.201

Note. OPJ = Organizational Procedural Justice, POS = Perceived Organizational Support, PE = Psychological Empowerment, IWB = Innovative Work Behavior; BCLL = lower limit of bias-corrected confidence interval; BCUL = upper limit of bias-corrected confidence interval; Index MM = Moderated Mediation Index.

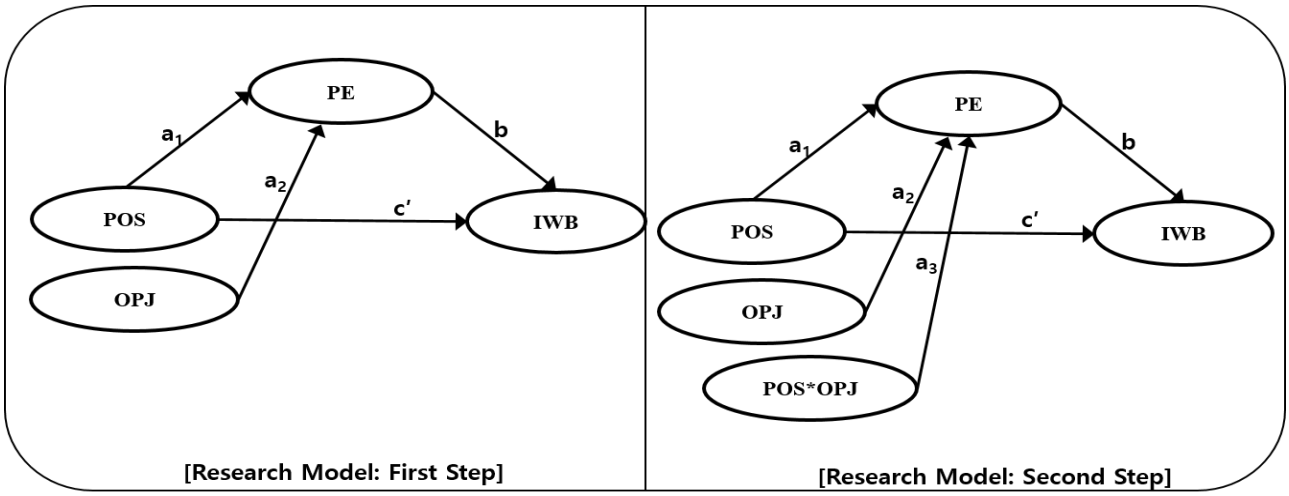

Fig. 2 - First and second steps of the research model

For the last step, the moderated mediation effect of POS on IWB at five levels of the moderator (OPJ) was estimated: (a) mean+2 *SD*, (b) mean+1 *SD*, (c) mean, (d) mean-1 *SD*, and (e) mean-2 *SD* with BCCIs. The results of the study indicated that the mediating effects of POS on IWB through psychological empowerment at all five different levels were positive (ranged from 0.264 to 0.546) and BCCIs for all mediating effects did not contain zero (see Table 5). These effects are graphically depicted in Figure 3. Considering these results, it can be concluded that the moderator, OPJ, may change the magnitude of the mediating effect of POS on IWB through PE.

Table 5 - Moderated mediation effects of POS on IWB at various values of moderator OPJ

	OPJ	Effect	*SE*	95% BCLL	95% BCUL
+2 *SD*	1.334	0.546	0.106	0.367	0.773
+1 *SD*	0.667	0.476	0.088	0.320	0.661
Mean OPJ (a_1b)	0.000	0.405	0.080	0.258	0.569
-1 *SD*	-0.667	0.334	0.086	0.180	0.525
-2 SD	-1.334	0.264	0.102	0.089	0.483

Note. OPJ = Organizational Procedural Justice, POS = Perceived Organizational Support, IWB = Innovative Work Behavior; BCLL = lower limit of bias-corrected confidence interval; BCUL = upper limit of bias-corrected confidence interval; a1b = simple mediating effect.

Based on the results of investigating the direct, mediating, and moderated mediating effects presented in tables 4 and 5, five research hypotheses were tested. The results demonstrated that all of research hypotheses except H2 (POS → IWB) were supported. Specifically, regarding directs effects, since the effect of POS on PE (a_1 = 0.568, 95% CI [0.434, 0.704]) as well as the effect of PE on IWB (b = 0.712, 95% CI [0.504, 0.895]) were statistically significant, H1 and H3 were supported. However, because the effect of POS on IWB (c' = 0.119, 95% CI [-0.037, 0.303]) was not statistically significant, H2 was not supported. When it comes to conditional indirect effects, the mediating effect of PE in the relationship between POS and IWB was statistically significant (a_1b = 0.405, 95% CI [0.258, 0.569]). Furthermore, the moderated mediating effect was statistically significant (a_3b = 0.106, 95% CI [0.005, 0.201]). Thus, H4 and H5 were supported. The results of testing the research hypotheses are summarized in table 6.

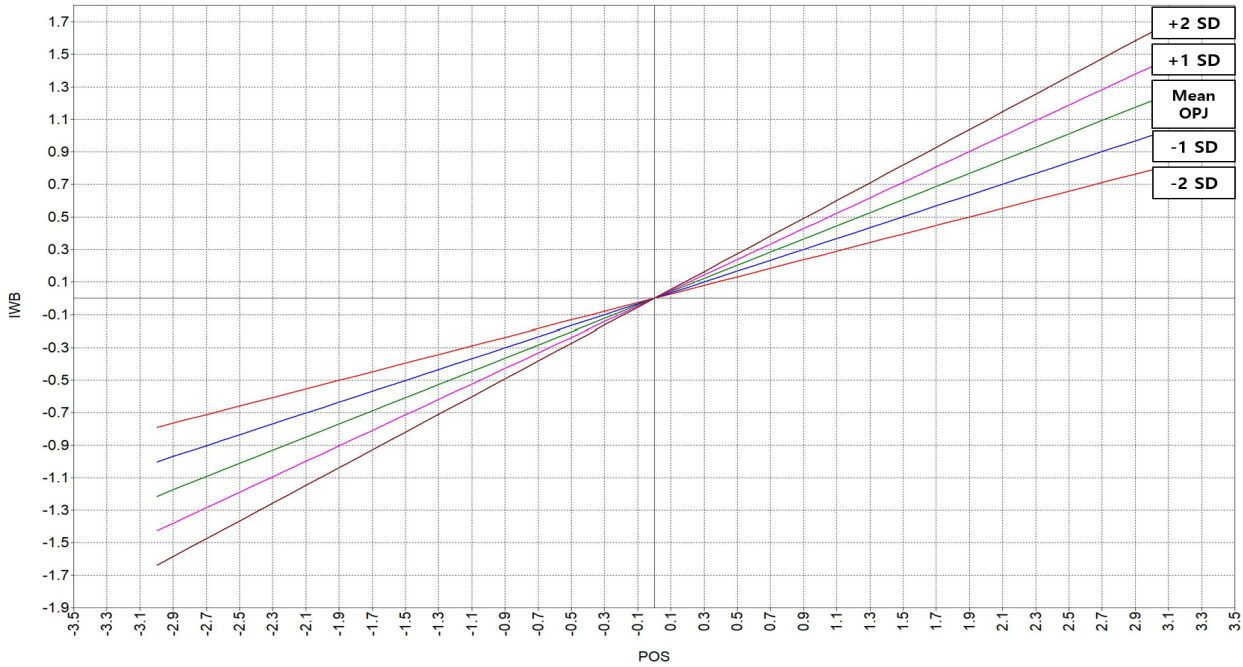

Fig. 3 - Plots for moderated mediation effects of POS on IWB at values of moderator OPJ

Table 6 - Results of testing research hypotheses

Research Hypotheses	Results
H1. POS will be positively related to PE.	Supported
H2. POS will be positively related to IWB.	Rejected
H3. PE will be positively related to IWB.	Supported
H4. PE will mediate the influence of POS on IWB.	Supported
H5. The mediating effect of POS on IWB through PE will be moderated by OPJ.	Supported

Note. OPJ = Organizational Procedural Justice, POS = Perceived Organizational Support, PE = Psychological Empowerment, IWB = Innovative Work Behavior

5. Discussion

The aim of this study was to investigate a model of the underlying mechanisms through which POS ultimately influence IWB for employees based on organizational support theory and social exchange theory. More precisely, we hypothesized psychological empowerment to mediate the relationship between POS and IWB and organizational procedural justice to moderate the mediating effect of POS on IWB through psychological empowerment. This section enumerates theoretical and practical implications of the research, based on our findings.

5.1. Theoretical Implications

First, we found that POS positively relates to psychological empowerment. The more employees feel valued and supported by their organization (POS), the more they develop high levels of psychological empowerment. This finding is not only consistent with the previous research pointing to a positive association between social support and psychological empowerment (e.g., Bordin, Bartram, & Casimir, 2006; Seibert, Wang, & Courtright, 2011), but also is in line with Thomas and Velthouse's (1990) theoretical suggestion that individuals' perceptions and judgments of external work conditions can significantly influence their subsequent perceptions and actions. For the consequence of POS, many researchers reported various organizational and individual outcomes, such as organizational commitment, job performance, job satisfaction, and employee retention (Babin & Boles, 1996; Chan, 2017; Chiang & Hsieh, 2012; Eisenberger et al., 1990; Eisenberger et al., 2002; Kurtessis et al., 2017; Maertz, Griffeth, Campbell, & Allen, 2007; Riggle, Edmondson, & Hansen, 2009; Rubel & Kee 2013). In addition to these outcomes, our study expanded the extant literature on POS by demonstrating that POS is also closely related to a psychological factor.

Furthermore, we found that POS is not directly correlated to IBW, but it is indirectly correlated to IBW through psychological empowerment. Despite the fact that previous studies demonstrated direct relationships between POS and IWB (Agarwal, 2014; Young, 2012), there is relatively a dearth of research investigating roles of employees' psychological aspects on the underlying mechanisms by which POS is translated into IWB in the existing literature. Indeed, the limited attention to employee psychological empowerment is surprising considering significant growing interest in empowering employees and their well-being in the workplace. This study begins to address this issue by

demonstrating that employees who perceive favourable support from the organization and supervisor feel more empowered in their work, leading to an increase in proactive and innovative actions in their work. Thus, researchers need to empirically investigate mediating roles of employee psychological empowerment in more varied settings (e.g., individual/team/organizational levels of psychological empowerment, higher or lower innovative work context, and different sizes of organizations).

Finally, we found the moderated mediating effect of organizational procedural justice in the impact of POS on IWB through psychological empowerment. Specifically, the proposed mediating effect of psychological empowerment in the POS-IWB relationship is stronger when the levels of organizational procedural justice that employees perceive is high. This result indicates that not only employees' perceptions on organizational support, but also fairness of the procedural justice, as a vital condition, both significantly influence employees in exhibiting innovative actions by fostering psychological empowerment. This result of the empirical investigation confirms organizational support and social exchange theory (Blau, 1964; Eisenberger et al., 1986) that favourable and fair treatment received from an organization encourages employees to conduct more discretionary actions (IWB, in this case).

5.2. Practical Implications

We believe that this study provides some practical suggestions for organizations and managers including TVET organizations. Our results suggest that the positive treatment that employees perceive from their organization are imperative in fostering employees' psychological empowerment and innovative actions in their work. Thus, it would seem that creating positive organizational climates valuing contributions of individuals and caring about their well-being is important in the organizations. For instance, TVET organizations can regularly listen to voices of workers and teachers through a formal survey or informal feedback channel like a "brown bag" to identify what kinds of help they need in performing the tasks, and supervisors also need to have a positive interpersonal relationship with their employees and show personal consideration.

Furthermore, our results indicate that individuals' psychological empowerment and procedural justice in the organization do matter in the development of their innovativeness, revealing that enhanced psychological empowerment by POS significantly influence IWB when employees recognize that the organization has formal and transparent policies and procedures. On the basis of our finding, it would be important that TVET organizations help employees and teachers add greater value to their work, feel competent in performing the work by providing essential skills and resources, and give a choice to determine the work. By doing so, each individual's heightened belief about being able to adequately and creatively address his or her tasks can subsequently lead to intended innovative endeavours. Particularly, for TVET organizations, this can be achieved by offering TVET managers tailored training programs which focus on how to improve teachers and employees' psychological empowerment and its influences (e.g., empowering leadership, relation- and exchange-oriented leadership, providing access to information related to tasks and organizations, job security, and participatory work culture [Bordin et al., 2006; Schermuly et al., 2013; Zhang & Bartol, 2010]).

Finally, the organization, including TVET groups, should be aware of the importance of fairness of the organizational policies and procedures as the key factor for an innovative organization. Making an effort for the provision of procedural justice, including creating transparent organizational culture, applying to parallel standards to all members, and fostering open and standard communication, can inspire and enhance employee's IWB. HRD practitioners may need to implement strategic interventions to enhance the organizational fair procedure, such as an anonymous report system that help employees make their voices on unfair procedure and leadership training programs for mangers to increase their justice in the decision-making.

5.3. Limitations and Conclusion

Although this study includes several important implications for academia and practice of HRD and TVET, current research has some limitations. First of all, the research has been conducted in a Korean context. Generalizing results to different contexts should be done carefully, since psychological empowerment and IWB constructs are context specific, and thus the statistical significance of the relationships among the research variables may vary across cultures, geographies, industries, and jobs. Second, a unitary psychological empowerment construct was employed in the analysis, even though some of the four sub-dimensions (meaning, competence, self-determination, impact) might have stronger influence on IWB than the others, and thus theoretical and practical implications of these variations would be more insightful. Moreover, earlier evidence of variation in the outcomes of dimensions (e.g., Seibert et al., 2011; Spreitzer, Kizilos, & Nason, 1997) is inconsistent, so dimensional analysis is still necessary for future researchers. Third, all measures were self-reported, and the relationships among research variables could be inflated by common method bias, although we conducted a test to address this issue. To further mitigate concerns about common method bias, the use of colleague- or manager-rating data would be valuable. Lastly, we did not assess causality with the data, so caution should be taken in the interpretation of the results. Additionally, future researchers need to consider a longitudinal approach, measuring the research variables at several different time points.

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