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Article

# Is the Role of Work Engagement Essential to Employee Performance or ‘Nice to Have’?

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**Abstract:** The current study aimed to scrutinize roles of work engagement as a mediator in the relationships between job and personal resources and employees’ outcomes, namely job performance and turnover intention, specifically focusing on testing the essentiality of work engagement. A total of 571 complete responses from full-time employees in Korean organizations were utilized for data analysis with structural equation modeling (SEM). This study analyzed two research models through the competing model approach: One model (Model 1) specified that job and personal resources directly influence job performance and turnover intention and also indirectly influence job performance and turnover intention through work engagement, whereas the other model (Model 2) specified that job and personal resources only indirectly influence turnover intention and job performance through work engagement. The results of the competing models demonstrated that overall, Model 2 adequately fit better than Model 1. The results also showed that the direct effects of job and personal resources on work engagement, as well as the direct effects of work engagement on job performance and turnover intention were statistically significant. In addition, the results of the study revealed statistically significant mediating effects of work engagement, not only on the relationship between job and personal resources and job performance, but also on the relationship between job and personal resources and turnover intention. Based on the results, theoretical and practical implications for human resource management, limitations, and recommendations for further research are discussed.

**Keywords:** job resources; personal resources; work engagement; job performance; turnover intention

## 1. Introduction

The issue of organizational sustainability has increasingly received a lot of research attention as it turned out that sustainable organizations positively contribute to multiple aspects of the society, including economic, environmental, and social (human) dimensions [1,2]. Particularly, over the last two decades, scholars in the field of human resource and organizational behaviors have paid great attention to employees’ sustainable engagement at their work as to the way of being beneficial in human performance. Since several scholars, such as Shuck and Wollard [3], triggered fervent discussions of meanings and roles of work engagement of employees in the workplace (e.g., what work engagement means; why it matters; and what strategic interventions can be made in the Human Resource Development perspective), myriad theoretical and empirical studies on work engagement to explain and verify its importance in relation to various consequences in an organization have been conducted. Specifically, underpinning the conservation of resource (COR) theory and job demands and resources (JD-R) model as a theoretical frame of their work, many prior studies posited and tested

work engagement as a mediator between antecedents (e.g., job resources [autonomy, skill variety, social support, performance feedback, supervisor coaching, opportunities for development, and learning culture], personal resources [self-efficacy, optimism, and organizational-based self-esteem], and job demands [overload, physical and emotional demands, and work–home interference]) and consequences (e.g., performance, turnover intention, organizational citizenship behaviors, innovative behaviors, customer satisfaction, and financial returns) [4–11]. Chughtai and Buckley [12], for instance, found the crucial role of work engagement was that it plays as a mediator that links job resources (trust in supervisor and trust propensity) with employees' in-role performance. Personal resources (self-efficacy, mental and emotional competences) were also found to have a positive impact on employees' performance via work engagement [13]. As such, work engagement acts as an important mediator that contributes to a link between various resources of employees and their outcomes. However, a question still remains: Is a mediating role of work engagement indispensable (significantly important), or minor and supplementary (so-called 'nice-to-have') that feebly benefits the impacts of individuals' resources on consequences? The aim of the current study, therefore, is to test the role of work engagement as a mediator between job and personal resources as they relate to employees' outcomes, namely job performance and turnover intention, specifically focusing on demonstrating whether work engagement is essential. To that end, the following research questions were established:

*RQ1. Does work engagement play a crucial role as a mediator in the relationships of job and personal resources with job performance?*

*RQ2. Does work engagement play a crucial role as a mediator in the relationships of job and personal resources with turnover intention?*

The present study contributes to the literature on work engagement in several important ways: First, given that work engagement is influenced by both external environments and internal (individual) factors [14], simultaneously considering job resources and personal resources in relation to work engagement are necessary for better understanding of their linkage. However, based on our review of the literature, we recognized many scholars have considered either job or personal resources alone and/or more scholars were likely to focus on job resources as predictors. Thus, our study, that includes both diverse job and personal resources as antecedents of engagement, can expand the extant literature and provide meaningful insights for HR practitioners.

Secondly, plenty of scholars revealed the importance of work engagement as a mediator between resources and organizational outcomes. Nevertheless, because mediating roles of work engagement attain strong theoretical reasoning, based on the JD-R model of work engagement as a research framework, we have never attempted to focus on how significant work engagement is as a mediator. Thus, by comparing conceptualized models (i.e., one model for job and personal resources having direct effects on outcomes and indirect effects through work engagement versus the other model for job and personal resources having only indirect effects on outcomes through work engagement) and finding the best model, we could grasp how work engagement works on the underlying mechanisms by which the resources increase employees' outcomes.

Lastly, our study originated in Korean organizations, while a majority of the studies on work engagement have been conducted in Western settings. Korean organizations, where job mobility has highly increased, seek to find strategic solutions and interventions to obtain engaged employees [15]. According to the Global Workforce Study conducted by Towers Watson [16], only 6% of Korean respondents (employees) were highly engaged in their work, while 48% of respondents were disengaged. This engagement level of Korean employees is much lower than the global average rate (engaged—21%; disengaged—38%). Given the clear connection between engagement and retention [17], we believe our context-specific findings would help HR practitioners in Korean organizations develop effective and pragmatic interventions supported by empirical evidence.

### 1.1. Literature Review

This section reviews the concepts of job resources and personal resources, work engagement, job performance, and turnover intention. We reviewed definitions for each construct and relationships among those constructs. To answer our research questions, we gathered information on work engagement and examined whether work engagement can be considered a critical mediator that influences relationships between job and personal resources on employee outcomes, such as job performance and turnover intentions [18,19].

As various engagement frameworks exist, scholars have used a particular framework that explains the model of each study. The well-established JD-R model assumes that work characteristics may enhance work engagement, which in turn, improve organizational outcomes [5]. We have attempted to expand the JD-R model because the past models have stressed the connection between employees' job resources and well-being, including their work engagement [20]. In addition, we used social exchange theory (SET) [21] as a general framework to explain how employees' perceptions of job and personal resources can affect employees' performance-related outcomes and the impact of work engagement as an intervening mechanism. The reason for using SET is based on two assumptions: "(a) [P]eople should help those who have helped them, and (b) people should not injure those who have helped them" [22]. For example, Richardsen, Burke and Martinussen [23] also applied SET when explaining statistically significant relationships of work engagement between antecedents (e.g., personal characteristics, job demands, and job resources) and consequences (e.g., work outcomes).

### 1.2. Work Engagement

Researchers on engagement have developed various concepts to explain employee activities, behaviors, and psychological states (e.g., commitment, motivation, and satisfaction) as core components of engagement. Scholars have begun using engagement with different terminology (e.g., employee engagement, job engagement, and work engagement). Employee engagement refers to "the individual's involvement and satisfaction with as well as enthusiasm for work" [24]. Typically, employee engagement is comprised of both job and organizational engagement [25]. Job engagement focuses on "a psychological state of fulfillment with one's task at work" [26] and organizational engagement focuses on "a multidimensional motivational concept reflecting the simultaneous investment of an individual's physical, cognitive, and emotional energy in active, full work performance" [27]. Work engagement (as used in this paper) is defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" [28]. Although these related terms have slightly different definitions, each definition shares a common core: To describe a state of mind [29].

### 1.3. Job and Personal Resources

We have reviewed two concepts of job and personal resources as we used both variables in a single structural equation model. Job resources are "those psychological, social, or organizational aspects of the job that (a) are functional in achieving work-related goals, (b) reduce job demands and the associated physiological and psychological costs, and (c) stimulate personal growth and development" [30]. Personal resources can be defined as an "individuals' sense of their ability to control and impact upon their environment successfully" [30].

For this study, we included job resources as antecedents of work engagement. Examples of job resources are autonomy, performance feedback, and skill variety. We examined personal resources as one of the critical pieces of work engagement. This study focused on three personal resources: Optimism, self-efficacy, and organizational-based self-esteem [11,14,30,31].

Previous researchers found job resources which improve work engagement and work-related outcomes [13,17,32]. Salmela-Aro and Upadyaya [17] used team climate, work ability, and role in the organization as job resources. According to their research, strongly favorable attitudes among

employees toward job resources have led to better work engagement and reduced voluntary turnover. A longitudinal study by Hu et al. [33] indicated that employees who experience high job resources showed a significant increase in work engagement and decrease in burnout.

Researchers noted that personal resources significantly influence job performance through work engagement [34–37]. Alessandri et al. [34] studied whether the relationship between positive orientation and job performance is mediated by work engagement. Additionally, they examined the moderating effects of self-efficacy beliefs, an element of personal resources, among these relationships. Interestingly, work engagement partially mediated the relationship between positive orientation and job performance because the relationship was significant when employees' self-efficacy was high or medium. Salmela-Aro and Upadyaya [17] also found that personal resources (e.g., employees' resilience) positively affect work engagement and reduced turnover intentions. Alessandri et al. [35] noted that personal resources (e.g., hope, resilience, optimism, and efficacy) positively predicted increased work engagement and higher job performance. Gawke et al. [37] also noted that a positive change in employees' personal resources over time predicted a higher level of work engagement.

From the literature, we found that not many studies examined both job resources and personal resources in the same structural equation model. Each job resource and personal resource has taken a role as a predictor of work engagement, but many researchers focused on just a single resource when examining the relationship between resources, work engagement, and employee outcomes. However, some researchers examined the effects of those two resources and found that they are closely related. For example, Lorente et al. [13] found from 228 construction employees' surveys that personal resources (i.e., self-efficacy, mental and emotional competences) are positively associated with job resources (i.e., job control and supervisor social support), which in turn impact higher work engagement and self-rated performance. Another study conducted by Trépanier et al. [38] indicated that the personal resource (employee's harmonious passion) partially mediated the relationship between job resources and work engagement.

Most studies that investigated the effects of job and personal resources on work engagement and employee outcomes relied on survey instruments as the main method of data collection. However, Van Wingerden, Derks and Bakker [39] investigated the importance of personal and job resources on job performance through work engagement by conducting a quasi-experimental study. They found that using personal resources as an intervention positively affects work engagement. Furthermore, using personal and job resources as an intervention positively impacts employees' self-rating of their job performance. More studies are needed to examine the effects of both job and personal resources in relationship to work engagement and employee outcomes.

#### *1.4. The Mediating Effects of Work Engagement*

Previous literature supported work engagement in a critical role as a mediator between job/personal resources and employees' job performance and turnover intention. Depending on study contexts and research questions, researchers have examined work engagement with different variables. The majority of studies have used engagement as a mediator [4,10,13,25,27,34,35,37,40,41]. On the other hand, some studies have shown engagement factors as antecedents [41–45] or outcomes [30,46–52].

In this section, we have summarized the literature that specifically uses work engagement as a critical mediator between resources and employee outcomes. Xanthopoulou et al. [42] found that work engagement played a mediation role in the relationship between self-efficacy and job performance. They also made a note that support and self-efficacy affected performance through work engagement. Recently, Airila et al. [40] conducted a study using a ten-year longitudinal design to expand the JD-R model by emphasizing long-term effects of job and personal resources on engagement, and consequently on work ability. They found that work engagement fully mediated the influence of job and personal resources on work ability. As a part of employee outcomes, several studies have examined work engagement as a mediator between job / personal resources and turnover intentions. Schaufeli and Bakker [53] indicated that work engagement mediated between job resources and

turnover intention. However, more studies should be conducted to verify those relationships and explore a holistic model by including both personal and job resources when examining the effect of work engagement as a mediator between resources and employee outcomes.

Taken together, we have summarized the main conclusions from the literature review as follows: (1) The basic assumption was made based on SET that people tend to engage in work more actively and produce positive work outcomes when they receive positive support from the job; (2) the previous studies demonstrated the importance of work engagement to employees' job performance by considering other variables, such as personal resources and job resources even though not many studies examined both personal and job resources in the same model; (3) most previous research on work engagement relied on survey instruments; and (4) the majority of studies have used engagement as a mediator.

## 2. Methods

### 2.1. Sample and Procedure

The population in the current research consisted of full-time employees from private companies located in South Korea. This study used the convenience sampling method. Human Resources (HR) managers were initially contacted by email or mobile to introduce the aim of this study and to obtain their consent to gather online survey data within their companies. Seven HR managers in five organizations were selected with their consent. Our online survey link was initially sent to HR managers of these five organizations, and then they distributed the survey link via their organizations' Intra-Net server systems. Throughout this process, a total of 623 cases were collected. Considering there were 52 incomplete cases, Little's MCAR (i.e., missing completely at random) test was performed. Because the results indicated that the data missing is at random ( $\chi^2(24) = 15.246, p > 0.05$ ), this study removed the incomplete cases by using the listwise deletion and a total of 571 cases were retained [54,55]. Of the 571 respondents, 84.2% were male, 14.4% were female, and 1.4% did not supply their gender. 80.5% indicated their ages as in their thirties and forties (30–39 years—54.8%; 40–49 years—25.7%). Most of the total sample (86%) had graduated from a 4-year university or higher. 52.2% served in managerial positions. Employees primarily worked either in R&D (38%) or in management support (34.3%). 82.4% worked either in the manufacturing industry (63%) or in the professional, scientific, and technical industries (19.4%).

### 2.2. Measurements

Personal resources were measured by 26 items from three sub-scales: Organizational-based self-esteem [OBSE], self-efficacy, and optimism [11,12,30]. OBSE was measured by 10 items with a 5-point Likert scale developed by Pierce, Gardner, Cummings and Dunham [56] (e.g., "I am helpful around here"). Self-efficacy was assessed by 10 items with a 4-point Likert scale suggested by Schwarzer and Jerusalem [57] (e.g., "I am confident that I could deal efficiently with unexpected events"). Optimism was assessed by six items with a 5-point Likert scale developed by Scheier, Carver and Bridges [58] (e.g., "I am always optimistic about my future"). The Cronbach's alpha for this measure ranged from 0.86 to 0.90 [14].

This research primarily focused on the task level of job resources comprising three sub-factors (i.e., performance feedback, autonomy, and skill variety). Each sub-factor was measured by three items from the job characteristic instrument [59] with a 7-point Likert scale. Sample items are as follows: Performance feedback (e.g., "Just doing the work required by the job provides many chances for me to figure out how well I am doing"); autonomy (e.g., "My job gives me complete responsibility for deciding how and when the work is done"); and skill variety (e.g., "My job requires me to use a number of complex or high-level skills"). The Cronbach's alpha for this measure varied from 0.61 to 0.82 [60].

Work engagement was assessed by nine items of the Utrecht Work Engagement Scale (UWES-9) with a 7-point Likert scale [28]. A sample item is “I get carried away when I’m working.” The Cronbach’s alpha for this scale ranged from 0.85 to 0.92 across ten multi-national samples [61].

Job performance was measured by a total of six items with a 7-point Likert scale [62]. A sample item is “I fulfill all the requirements for my job.” The Cronbach’s alpha for this measure varied from 0.74 to 0.86 [4,63].

The turnover intention was assessed by three-items with a 5-point Likert Scale [64]. A sample item is “I frequently think of quitting.” The Cronbach’s alpha for the measure varied from 0.75 to 0.82 [25,65,66].

### 2.3. Data Analysis

The current study examined the collected data by using structural equation modeling (SEM) with a preliminary data analysis. To evaluate the overall fit statistics of the proposed research models, this study assessed the Satorra-Bentler (SB) scaled chi-square to deal with the non-normality of the collected data [54], the standardized root mean square residual (SRMR), the root mean square error of approximation (RMSEA), the non-normed fit index (NNFI), and the comparative fit index (CFI) with cutoff criteria (SRMR < 0.08, RMSEA < 0.08, NNFI > 0.95, CFI > 0.95) [67,68]. Moreover, to examine any improper solutions of the research models, each parameter estimates with reasonable signs and magnitudes were investigated [68]. We also checked any negative error variances or non-significant paths. Furthermore, to answer proposed research questions, this study analyzed two research models through the competing model approach and also used standardized estimates of path coefficients (SPC) with t-values and bias-corrected bootstrap results of the mediating effects.

## 3. Results

### 3.1. CMB, Reliability, Correlation, and Normality

Common method bias (CMB), reliability, the correlation matrix, and normality were investigated before further examining the collected data set. First, a statistical technique for the confirmatory factor analysis (CFA) for one common factor model was utilized to assess the issue of CMB [69]. The results of CFA indicated that it fit poorly with the collected data ( $\chi^2$  (1325) = 9041.855,  $p < 0.001$ ; SRMR = 0.0923; RMSEA = 0.139; NNFI = 0.892; CFI = 0.896). As there is no one common factor explaining major variance in the data set, it indicated that CMB is not considered a major concern in this research.

The results of Cronbach’s alpha for each measurement and correlations are presented in Table 1. According to the results, all measurements of the study had an acceptable level of reliability ( $\alpha$  ranged from 0.71 to 0.94) [64]. The Pearson correlation also demonstrated no multicollinearity problem ( $|r| < 0.85$ ) [68].

Furthermore, multivariate normality of the variables was assessed by skewness (SK) and kurtosis (KU). According to the results of the univariate statistics ( $|SK| < 2$ ,  $|KU| < 7$ ) [70,71] and multivariate normality ( $p$ -values of SK and KU < 0.05) with the relative multivariate kurtosis (RMK = 1.174 [ $< 3$ ]) [72,73], it is conceivable that the current data set were moderately non-normal, which could be addressed with Robust ML.

**Table 1.** Descriptive statistics, correlations, reliabilities among latent variables (n = 571).

Variable	M	SD	$\alpha$	1	2	3	4	5	6	7	8	9	10	11
1. Autonomy	4.83	1.123	0.73	1										
2. Performance Feedback	4.62	1.109	0.73	0.470	1									
3. Skill Variety	5.19	1.075	0.78	0.333	0.260	1								
4. Job Resources	4.88	0.833	0.79	0.802	0.767	0.695	1							
5. Optimism	3.81	0.574	0.79	0.342	0.289	0.279	0.402	1						
6. Self-Efficacy	3.01	0.394	0.90	0.277	0.269	0.293	0.370	0.489	1					
7. Organizational-Based Self-Esteem	3.68	0.526	0.91	0.462	0.334	0.332	0.499	0.450	0.525	1				
8. Personal Resources	3.50	0.404	0.92	0.452	0.369	0.371	0.527	0.827	0.784	0.817	1			
9. Work Engagement	5.01	0.980	0.94	0.430	0.482	0.383	0.572	0.482	0.472	0.488	0.593	1		
10. Job Performance	5.37	0.710	0.81	0.346	0.339	0.279	0.426	0.427	0.585	0.645	0.672	0.537	1	
11. Turnover Intention	2.17	0.793	0.71	−0.274	−0.312	−0.244	−0.367	−0.333	−0.156	−0.306	−0.341	−0.366	−0.267	1

Note.  $\alpha$  = Cronbach's Alpha. All correlations are significant,  $p < 0.01$ .



### 3.2. Item Parceling of Job and Personal Resources

As the measurement part of our research models encompassed a large number of variables, models of job and personal resources were examined to reconstruct them by using item parceling. The overall fit indices of the measurement models of job and personal resources showed that even though the SB  $\chi^2$  of both measurement models were statistically significant, other overall fit indices of both models met cutoff criteria (See Table 2). Thus, it can be assumed that the measurement models of job and personal resources were found to be statistically acceptable. In addition, regarding possible improper solutions of both measurement models, the results demonstrated that factor loadings in both models were statistically significant ( $|t| > 1.96, p < 0.05$ ). Magnitudes and signs of parameter estimates in the models also made sense without any negative error variances and out-of-range of  $r$ . Taken altogether, there was no suggestion of improper solutions. Therefore, item parceling models of job resources and personal resources were employed in this research [74].

**Table 2.** Overall fit statistics of job resources and personal resources.

	SB Scaled $\chi^2$ (df)	SRMR	RMSEA	NNFI	CFI
Job Resources	$\chi^2$ (24) = 82.918, $p < 0.001$	0.0559	0.0656	0.963	0.975
Personal Resources	$\chi^2$ (296) = 850.198, $p < 0.001$	0.0563	0.0573	0.974	0.976

As this research utilized the parceling models of job and personal resources, multivariate normality of the variables was reassessed. The results demonstrated that our data set had a moderate non-normality ( $|SK| < 2, |KU| < 7, RMK = 1.239 [ < 3]$ ), which can be addressed by robust ML [71].

### 3.3. Evaluation of Measurement Model

According to the overall fit statistics of the measurement model, the SB  $\chi^2$  was statistically significant ( $\chi^2$  (242) = 951.038,  $p < 0.001$ ; see Table 3). However, other overall fit indices were within the criteria (SRMR = 0.0557, RMSEA = 0.0717, NNFI = 0.966, CFI = 0.970). Also, regarding possible improper solutions, all factor loadings ( $\lambda$  ranged from 0.88 to 0.42,  $p < 0.05$ ) were statistically significant and no other issue was identified. Taken altogether, the measurement model had an adequate fit with the collected data.

**Table 3.** Overall fit statistics of measurement model.

	SB $\chi^2$ (df)	SRMR	RMSEA	NNFI	CFI
Measurement Model	$\chi^2$ (242) = 951.038, $p < 0.001$	0.0557	0.0717	0.966	0.970

### 3.4. Evaluation of Structural Model Fit: Results of the Competing Models

Because the measurement model was valid, the full models were assessed. Even though the latent variables in both of the full models are identical, one model (Model 1) specified that job and personal resources directly influence job performance and turnover intention and also indirectly influence them through work engagement, whereas the other model (Model 2) specified that job and personal resources only indirectly influence turnover intention and job performance through work engagement. As both models have the nested relationship, the nested model comparison using the SB  $\chi^2$  difference test was performed. The results demonstrated that the SB  $\chi^2$  difference tests were statistically significant, indicating that both structural models are significantly different (TRd = 336.6981 [ $p < 0.001$ ],  $\Delta df = 4$ ; see Table 4).

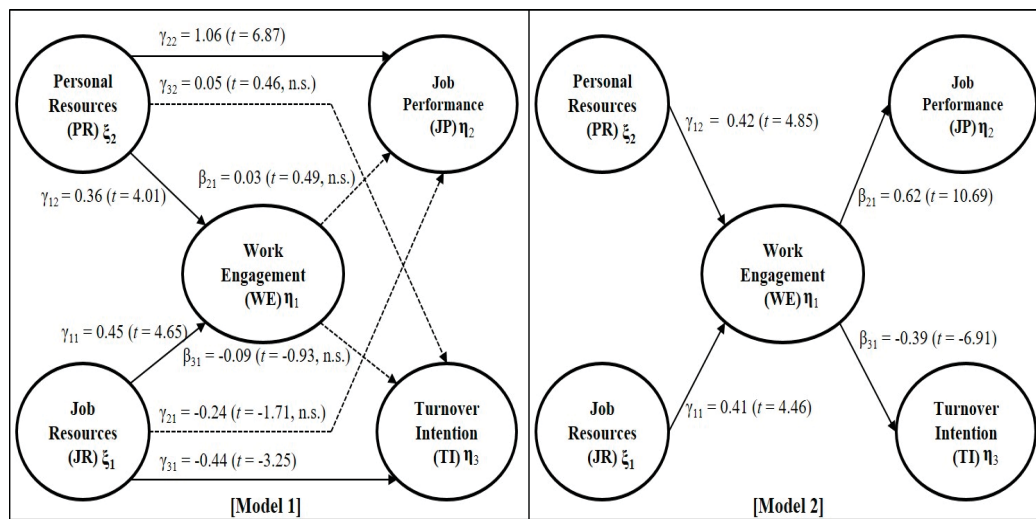
**Table 4.** Satorra-Bentler (SB) Chi-square difference test.

	Model 1	Model 2
T1 (Minimum fit function $\chi^2$ )	1108.826	1350.188
T2 (normal theory weighted least squares $\chi^2$ )	1258.316	1475.222
TR (SB $\chi^2$ )	951.795	1124.225
df (Degree of freedom)	243	247
c (Scaling correction factor, T2/TR)	1.322	1.3122
cd (Difference test scaling correction, $\Delta(c*df)/\Delta df$ )	cd = 0.71685	
TRd (Satorra-Bentler scaled $\chi^2$ difference test, $\Delta T1/cd$ )	TRd = 336.6981 ( $p < 0.001$ )	

Regarding the overall fit statistics of the structural models, the SB  $\chi^2$  of both models were statistically significant. However, other overall fit indices of both models met the cutoff criteria (results shown in Tables 4 and 5). In addition, regarding any improper solutions of both models, although all path coefficients in Model 2 were statistically significant ( $|t| > 1.96$ ,  $p < 0.05$ ), four paths (PR  $\rightarrow$  TI, JR  $\rightarrow$  JP, WE  $\rightarrow$  JP, and WE  $\rightarrow$  TI) in Model 1 were found to be statistically not significant (see Figure 1). Also, some signs and the magnitudes of parameter estimates in two paths (PR  $\rightarrow$  JP and JR  $\rightarrow$  JP) of Model 1 did not make sense. Taken altogether, it can be concluded that Model 2 was found to adequately fit better than Model 1.

**Table 5.** Overall fit statistics of Model 1 and Model 2.

	SB $\chi^2$ (df)	SRMR	RMSEA	NNFI	CFI
Model 1	$\chi^2$ (243) = 951.795, $p < 0.001$	0.0557	0.0715	0.966	0.970
Model 2	$\chi^2$ (247) = 1124.225, $p < 0.001$	0.0776	0.0789	0.959	0.963

**Figure 1.** Models 1 and 2 with standardized path coefficient estimates.

In summation, the results demonstrated that both models (Model 1 and Model 2) are found to be significantly different. The overall fit of both models was acceptable. However, only Model 2 has no issues with improper solutions. Thus, we concluded that Model 2 fit better than Model 1. We selected Model 2 for the final model of this study.

Based on the results of the Model 2 estimation, the proposed research questions were examined. SPC estimates were used to assess the direct paths among five research constructs (See Figure 1). The SPC estimates showed that work engagement was directly and significantly influenced by job resources (SPC = 0.41,  $t = 4.46$ ) and personal resources (SPC = 0.42,  $t = 4.85$ ). Also, the results

demonstrated that the direct effects of work engagement on job performance ( $SPC = 0.62, t = 10.69$ ) and turnover intention ( $SPC = -0.39, t = -6.91$ ) were both statistically significant. To examine the indirect effects of work engagement, a bootstrap estimate approach was implemented. According to Preacher and Hayes [75], utilizing the bootstrapping approach, especially the bias-corrected (BC) bootstrapping procedure, was highly recommended to investigate specific indirect effects under most sample sizes. Therefore, we investigated the indirect effects by using the BC bootstrapping estimates with 1000 bootstrap samples.

The results of bootstrap estimates are summarized in Table 6. The bootstrap results indicated that WE had significant mediating effects in the relationship between JR and JP ( $ab = 0.254, p < 0.01, 99\% \text{ CI } [0.105, 0.403]$ ), as well as in the relationship between PR and JP ( $ab = 0.264, p < 0.01, 99\% \text{ CI } [0.089, 0.439]$ ). Based on the results of direct and indirect effects in Model 2, it can be concluded that work engagement played a crucial role as a full mediator in the relationship between personal resources and job resources and job performance (RQ1). In addition, the results revealed the statistically significant indirect effects of WE in the relationship between JR and TI ( $ab = -0.158, p < 0.01, 99\% \text{ CI } [-0.273, -0.042]$ ) and also in the relationship between PR and TI ( $ab = -0.164, p < 0.01, 99\% \text{ CI } [-0.276, -0.052]$ ). Taken together, it can be concluded that work engagement played a crucial role as a full mediator in the relationship between personal resources and job resources and turnover intention (RQ2).

**Table 6.** Results of bootstrap estimates for mediating effects.

Paths	ab	SE	Z	Bias-Corrected 99% CI*	
				Lower	Upper
PR → WE → JP	0.264	0.068	3.893	0.089	0.439
PR → WE → TI	-0.164	0.044	-3.756	-0.276	-0.052
JR → WE → JP	0.254	0.058	4.395	0.105	0.403
JR → WE → TI	-0.158	0.045	-3.525	-0.273	-0.042

Note. ab = completely standardized estimate of the mediating effect; SE, standard error. \* This 99% confidence interval does not include zero.

## 4. Discussion

In this section, we have provided theoretical and practical implications. Further, we recognized our study limitations and suggested future research.

### 4.1. Theoretical Implications

Our findings highlight a number of important implications for the extant literature on work engagement. First, based on our review of the literature on work engagement, our study is one of the first studies that compare the mediating power of work engagement constructs in the relationship of multiple job and personal resources on employee outcomes. Although there is strong evidence that employees' work engagement is beneficial for employee outcomes [4] and mediates the influences of various job, personal, and social resources on employee outcomes [76], the significance of the mediating role of work engagement between these relationships has not been adequately explored. Therefore, to identify the significance of work engagement as a mediator, two models (i.e., Model 1 for job and personal resources having direct effects on outcomes and indirect effects through work engagement versus Model 2 for job and personal resources having only indirect effects on outcomes through work engagement) were compared in this study. As a result, Model 2 was more adequate than Model 1 as the prediction that work engagement would fully mediate the relationship between resources and outcomes was better supported by our data. This indicates work engagement is an essential psychological experience of individuals that connects environmental and personal resources and performance. Specifically, discussing our findings based on the final selected model (i.e., Model 2), first, both job resources (autonomy, performance feedback, and skill variety) and personal resources

(optimism, self-efficacy, and organizational-based self-esteem) were positively associated with work engagement. These findings replicate and expand previous studies on job and personal resources as salient predictors of work engagement [13,17,32,35]

Secondly, as there are only a few studies that have examined both job resources and personal resources with the inclusion of various types of resources in relation to work engagement [11,14,77], our results contribute to adding the concrete empirical evidence of the expanded JD-R model [43]. While the JD-R model states that job resources facilitate employee's work engagement through a motivational process [43], the expanded JD-R model, by adding personal resources to the original model, further emphasizes the role of personal resources: That is, personal resources, which increase individuals' positive self-evaluations, ultimately lead to the enhancement of individuals' work-related well-being [14]. Based on this theoretical notion of the expanded JD-R model as a conceptual framework, we tested the predictive power of job and personal resources on work engagement simultaneously and confirmed this notion by revealing that their predictive values of job and personal resource are similar on work engagement. Furthermore, although we examined the independent relationships of job resource and personal resources with work engagement, drawing on the COR theory (various resources are salient factors in gaining new resources by being better positioned for resource gains), we can posit that job resources and personal resources may be interdependent and that they also correlate [14,38]. Therefore, future research will be needed to demonstrate correlations among job resources and personal resources, as well as combined effects of various resources on work engagement (e.g., moderated mediation effects of resources on engagement).

Lastly, in line with a few prior studies on work engagement that were grounded within SET [23,66], the findings of the current study contribute to extending the theory by considering the connection of SET and performance through work engagement. The findings of our study indicate employees who experience enhanced work engagement by building and utilizing adequate resources produce better performance and reduce counterproductive outcomes (i.e., employee turnover intentions in this case). Given the strong consistency of findings in prior studies [40,53], it is evident work engagement plays a crucial role in linking a variety of resources and employee performance-related outcomes. We believe these findings generally support SET: Employees perceiving that they are positively supported in a work context tend to reciprocate positive treatment back to an organization [21]. That is, the experience of perceived adequate resources encourages employees to engage in their work, which consequently leads to their better performance. However, as a majority of previous studies has been developed based on several predominant theories (i.e., JD-R model and COR theory), future researchers should seek to develop and examine definite models by drawing on various theoretical backgrounds in order to explore how work engagement effects organizational effectiveness.

#### *4.2. Practical Implications*

Given our findings that work engagement fully mediates the influences of environmental and personal resources on employee performance, it is important for HR professionals and leaders to comprehend the meaning and positive impact of work engagement to individual employees, as well as their organizations. For example, many organizations are interested in employees' engagement at work, which they believe would be beneficial for their organization's desired performance, yet it turned out that a great number of leaders do not have adequate knowledge on what work engagement means and how to develop engaged employees [78]. Some leaders and HR professionals in Korean organizations even think that work engagement might be helpful, but not necessary, to consider for organizations. However, as indicated by the results of the study, work engagement plays a critical and essential role in the influences of job and personal resources on employees' job performance and voluntary turnover as a mediator. Thus, leaders and HR professionals need to appropriately understand the concept and positive influences of work engagement and apply it to their organizations.

Secondly, in order to create the best environment to facilitate and promote employees' work engagement, organizational leaders and HR professionals should consider not only job resources,

but also personal resources. Based on the results of this study, direct effects of job and personal resources are statistically significant with almost identical magnitudes; indirect effects of job and personal resources on job performance and turnover intention through work engagement were also statistically significant with similar magnitudes. In general, organizations seem to be more focused on job resources—such as performance feedback, supervisor support, and autonomy—to create favorable work environments for improving performance. However, not many organizations offer relevant and strategic interventions that enhance their employees' personal resources. For instance, previous research showed that an individual's positive emotions, job crafting interventions, transformative leaders, and learning cultures of organizations can encourage the individual's positive self-evaluation on work-related ability, thereby promoting engagement at work [9,39,77]. Therefore, HR practitioners interested in improving work engagement need to pay renewed attention to various internal and external factors in promoting employee' personal resources.

Lastly, many organizations seem to believe if they provide their employees with sufficient job and personal resources, such resources help employees to be engaged, which directly and indirectly leads to enhancing their job performance and reducing voluntary turnover. However, as revealed by the results of the current study, in order to maximize organizational outcomes (i.e., higher job performance and lower turnover intention), organizations should proactively leverage job and personal resources, specifically focusing on improving employees' work engagement. HR professionals need to be knowledgeable about the essential role of work engagement, what engagement means to employees, and assess what kinds of job and personal resources (e.g., performance feedback and organizational-based self-esteem) are vitally needed to support employees' work engagement in their organizational context. HR professionals should design or modify relevant HR programs and/or policies by properly selecting resources to facilitate the engagement of individual employees in their work, so that implementation ultimately leads to effectively enhancing organizational outcomes.

#### 4.3. Limitations and Future Research

Despite finding interesting and significant results, the current study includes several limitations and suggestions for future research. First, although the results showed that job and personal resources are important correlates of engagement and ultimately lead to positive employee outcomes, as we used a cross-sectional research design their causality was not examined in the current study. Several researchers reported that resources reciprocally related to work engagement and that job and personal resources were also reciprocally associated with each other based on the perspective of cumulative resource gains within the COR theory [14,76]; therefore, longitudinal studies or time-lagged studies on reciprocal relationships among various types of job and personal resources and work engagement need to be designed for future researchers. In addition, to deeply understand and demonstrate how using resources or resource interventions of an organization influence engaged employees and performance in real work situations, future researchers should attempt to use a quasi-experimental design and qualitative approach [39,79].

Lastly, additional research will be essential to further verify and generalize this model both nationally and globally because the research sample data were collected from selected organizations with a convenient sampling method. For instance, future research might focus on different contexts, including certain organizations, industries, or occupations with representation of each occupation, organization, and/or industry and consider different work groups (e.g., age groups, male and females, full-time and contract workers) to further investigate whether there are any significant differences. Future studies also need to consider survey data with weights to estimate and interpret research findings more accurately. In addition, as we used self-reported measures and assessed individuals' perceptions of performance and turnover intention as dependent variables, common method biases were not completely ruled out in this study. Future researchers will need to use actual voluntary turnover and objective performance ratings in order to mitigate the issues related to CMB.

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