


Job Performance in the Learning Organization: The Mediating Impacts of Self-Efficacy and Work Engagement

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The concept of the learning organization is well known and has been researched in many studies as an antecedent that influences organizational performance, including behavioral performance, cognitive performance, knowledge management, and financial performance (Goh, Elliott, & Quon, 2012). Conceptually, the learning organization is defined as an environmental factor that encourages system-thinking-based collaborative learning to facilitate continued performance improvement by providing strategic leadership support, environmental support, and individual-level care (Watkins & Marsick, 1993, 1996). Empirically, many studies worldwide have approved the significant impact of the learning organization on organizational performance (Watkins & Dirani, 2013).

Although the concept has been popularly researched in human resource development, management, and adult-learning disciplines, its application in other areas has recently received more attention based on rationales of the validity and applicability of the concept to the learning organization (Song, Martens, McCharen, & Ausburn, 2011). For example, several studies have been conducted in educational institutions such as schools and universities based on the assumption that they should be learning organizations because their mission is to improve the capability of people through teaching and learning activities (Örtenblad & Koris, 2014).

This study examines the structural relationships among learning-organization culture, self-efficacy, work engagement, and job performance in Korean workforce institutions. The authors also investigated the mediating roles of teachers' self-efficacy and work engagement on the relationship between the learning-organization culture and teachers' job performance. Working with a total of 481 valid surveys from workforce-education teachers at 21 Korean workforce-education schools, structural equation modeling (SEM) and the Sobel test were primarily implemented to examine the hypothesized model and research hypotheses. The results showed the positive impacts of learning-organization culture in Korean workforce institutions on teachers' self-efficacy and work engagement. Teachers' self-efficacy positively affected their work engagement and job performance, and the relationship between work engagement and job performance was statistically significant. Also identified were the mediating roles of self-efficacy and work engagement on the relationships between the learning-organization culture of workforce-education schools and the teachers' job performance.

In particular, workforce-education institutions have shown a growing interest in becoming learning organizations to address the challenges of facilitating effective education and enhancing student performance (Berkowitz, Bowen, Benbenishty, & Powers, 2013). However, there is still a dearth of application of the learning organization in the educational institutions in the non-Western context, such as the South Korean cultural context (Song, Kim, Chai, & Bae, 2014).

Furthermore, the teachers' individual behaviors and interactive school environment need to receive more attention in the collectivistic and hierarchical cultural context, which is different from the Western cultural context. Because the educational policy at the governmental level in South Korea (Korea hereafter) has focused on improving (a) the curriculum, (b) the teacher–student relationship, and (c) the learning environment to inspire creativity and reform in schooling, the principal's leadership-oriented school innovation was emphasized due to the Korean cultural and systematic contexts (Kim & Kim, 2005; Park & Jeong, 2013). Although the work engagement of teachers has received attention in Korean education institutions (e.g., Park, Song, Yoon, & Kim, 2014), more research on the teachers' individual behaviors and interactive school environment should be conducted. In addition, the performance level of teachers is one of the most critical concerns in Korean education institutions (Song et al., 2014).

Consequently, the current study aimed to examine the impact of the learning-organization culture in Korean workforce-education institutions on the teachers' self-efficacy level and work-engagement level and on job-performance improvement. We also measured the independent relationships among the variables and particularly focused on the mediating roles of individual teachers' behavioral factors on the relationship between the level of school support and the teachers' job performance. Self-efficacy is one of the most influential factors that determine individual behaviors. Work engagement is also a critical condition that leads to behavioral performance improvement (Bakker, Demerouti, & ten Brummelhuis, 2012). Self-efficacy and work engagement are considered core determinants of performance because they are most proximal to the motivational factor, which is critical for explaining human behavior (Ajzen, 1991). Measuring direct effects, indirect effects, and holistic relations among the variables would provide a comprehensive understanding of interactive relations among the research constructs.

The results of the current research could shed light on innovative activities in Korean workforce-educational institutions in terms of suggesting guidelines for both the individual level (behavioral actions) and the organization level (school system, structure, and climate) and how they should be considered interactively to lead to continued school improvement. These suggestions and guidelines could be the cornerstone of a new paradigm and approach for the innovation and reform of Korean workforce-education institutions. This new view focuses more on the teach-

ers' individual behaviors and interactive school environment beyond the historical focus on the principal's leadership-oriented school innovation.

Literature Review

This section addresses the definition and relevance of four key constructs: learning organization, work engagement, self-efficacy, and job performance.

Learning Organization

The concept of the learning organization has been largely discussed in business settings and has been defined differently in the literature. In the UK, Pedler, Boydell, and Burgoyne (1989) coined the term "learning company" and defined it as "an organisation which facilitates the learning of all of its members and continuously transforms itself" (p. 2). Using this definition, Pedler et al. (1989) emphasized that learning and working cannot be separated in the learning company. Later in the United States, the concept of the learning organization was popularized by Senge's (1990) work, in which he proposed five disciplines of the learning organization: systems thinking, personal mastery, mental model, building shared vision, and team learning.

According to Garvin (1993), however, many of the recommendations from Senge's work are "far too abstract" (p. 79) and distant from a guideline for practical actions. As a result, Garvin (1993) defined a learning organization as "an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insight" (p. 80). Focusing on more practical action imperatives to build a learning organization, Watkins and Marsick (1993) proposed a model consisting of seven dimensions of the learning organization:

1. Leadership for learning
2. System connection
3. Embedded system
4. Continuous learning
5. Dialog and inquiry
6. Empowerment
7. Team learning

Watkins and Marsick (1993) defined the learning organization as "one that learns continuously and transforms itself" (p. 8). Within this definition is the core notion that learning results in changes in organizational capability for performance, knowledge, and behaviors. The current study adopted Watkins and Marsick's definition of the learning organization because their model of learning organization (a) has been applied to educational institutions (Marsick, 2013); (b) integrates four comprehensive

frames including organizational learning, workplace learning, learning climate, and learning structure perspective (Örtenblad, 2002); and (c) allows researchers to conceptualize the link between the learning-organization culture and the behavioral performance of teachers as adult learners.

Work Engagement

For educational institutions to be more effective and successful, what is needed is teachers who are more engaged in their work. Work engagement, as a more pervasive and persistent affective-motivational state, is defined as “a positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli, Bakker, & Salanova, 2006, p. 702). It is expected that vigorous teachers possess high levels of energy and mental resilience in their workplace and are willing to invest persistent effort in their work regardless of the difficulties they encounter (Schaufeli et al., 2006). Dedication refers to both the cognitive and affective state of being fully involved in one’s work and encompasses a sense of meaningfulness, pride, inspiration, enthusiasm, and challenge (Schaufeli, Salanova, González-Romá, & Bakker, 2002). As the final dimension of work engagement, absorption refers to being fully, deeply, and happily concentrated in one’s work, whereby dedicated teachers feel and cognize a sense of strong attachment to their work (Schaufeli et al., 2002, 2006).

Self-Efficacy

The term self-efficacy refers to the degree to which an individual believes he or she can successfully perform a certain behavior required to produce desired outcomes (Bandura, 1977). This definition is similar to Vroom’s (1964) effort-performance expectancy, which introduces the expectation that an individual’s effort will result in positive work performance (Black & Mendenhall, 1991). In his review of the literature, Bandura (1977) found that individuals with higher levels of self-efficacy were more persistent in their learning endeavors. Self-efficacy is a context-specific construct and thus may be skill-specific, task-specific, or domain-specific (Bong, 2006). In educational-institution contexts, teacher self-efficacy is commonly conceptualized as teachers’ beliefs in their capability to influence desired student outcomes (Skaalvik & Skaalvik, 2007). However, the teacher’s role is generally not limited to educating students but expands to building an effective system and culture within their educational institutions. Based on this notion, it would be prudent to conceptualize teacher self-efficacy as “individual teachers’ beliefs in their own abilities to plan, organize, and carry out activities required to attain specific educational goals” (Skaalvik & Skaalvik, 2007, p. 612).

Job Performance

Job performance has been viewed as task proficiency and is rated by one’s immediate supervisor in the workplace (Somers & Birnbaum, 1998). Task proficiency should cover one’s in-role behavior, which consists of

the behaviors executed by the person in meeting his or her job responsibilities (Piercy, Cravens, Lane, & Vorhies, 2006). Individuals' perceptions of their job requirements are substantially different from their supervisors' perceptions in that individuals have a narrower definition of job in-role behaviors (Belogolovsky & Somech, 2010). The in-role behaviors are distinguished from the extra-role behaviors, which go beyond the formal employment contract (Belogolovsky & Somech, 2010). In the current study, the concept of job performance is restricted to the in-role performance of teachers because teachers perceive their in-role behaviors as part of their job (Somech & Drach-Zahavy, 2000).

High School Context in Korea

During the past several decades, Korean education has expanded rapidly, resulting in highly accessible secondary and higher education, as indicated by the 72% matriculation rate for higher education in 2011 (Lee & Park, 2014). This educational expansion contributed to the national economic growth by producing quality human resources. However, it also had negative consequences such as *dead education*, which prepared students only for the college entrance exam (Lee & Park, 2014), and improper vocational training in response to the demands of the changing economic environment (Park & Jeong, 2013). The Korean educational system was also criticized because it overly emphasized regurgitation and students' ability to memorize at the cost of fostering creativity. For these reasons, since the May 31st School Reform in 1995, the educational policy at the governmental level has focused on improving the curriculum, the teacher–student relationship, and the learning environment to inspire creativity in schooling. The core of this policy continues to date, albeit with more emphasis on creativity (Lee & Park, 2014).

This need for improvement and reform of education in Korea led to the notion that for education to change, teachers' performance must be improved (Chung, Kim, Park, & Lee, 2007). Also emphasized was the importance of the principals' leadership, because they are viewed as the primary local decision makers, problem solvers, and change agents (Kim & Kim, 2005; Park & Jeong, 2013). However, little attention was paid to the cultural aspect of schools, which is a fundamental antecedent influencing the behavior of both teachers and principals. Given the emphasis on the learning environment and creativity in Korean schools, it appears that the learning organization may be a remedy to support the current educational movement in Korea because the learning organization not only facilitates sharing, learning, and applying knowledge in the workplace but fosters creating knowledge (Song, 2008). Although many countries have made an effort to introduce the concept of the learning organization in schools (Berkowitz et al., 2013; Örtenblad & Koris, 2014), the concept remains elusive and abstract for many school-level practitioners in Korea due to the lack of research that tries to capture the mechanism underlying the relationship between the learning environment, teachers, and their performance.

Theoretical Framework and Research Questions

To elucidate the relationships among the constructs discussed in the Literature Review section, we drew on four theories: organizational-support theory, social-cognitive theory, work-motivation theory, and the theory of planned behavior. Based on the theoretical foundations and previous empirical evidence, a research model was generated as shown in Figure 1. Along with four research questions, the rationales of the hypothesized relationships follow.

The Effects of Learning-Organization Culture

Organizational-support theory details how a learning-organization culture relates to self-efficacy, work engagement, and job performance. According to the organizational-support theory (Eisenberger, Huntington, Hutchison, & Sowa, 1986), human behavior is attributable both to a person's individual motives and to the intent of the organization for which the person works. Hence, organizational-support theory illuminates the psychological process through which organizational support results in favorable outcomes. Eisenberger et al. (1986) maintained that perceived organizational support would increase an individual's effort-outcome expectancy, which is defined as the belief that efforts toward meeting organizational goals would be rewarded by the organization. More specifically, organizational support for learning would influence self-efficacy, because self-efficacy changes when an individual obtains new knowledge and work experiences in a supportive environment (Stadkovic & Luthans, 1998).

In a similar vein, Rhoades and Eisenberger (2002) implied that organizational support for learning would bring about increased job satisfaction, commitment, and performance. Several studies empirically identified the relationships: the positive relationship between perceived organizational support and self-efficacy (e.g., Maurer, Pierce, & Shore, 2002; Pati & Kumar, 2010) and the positive relationship between perceived organizational support and work engagement (e.g., Pati & Kumar,

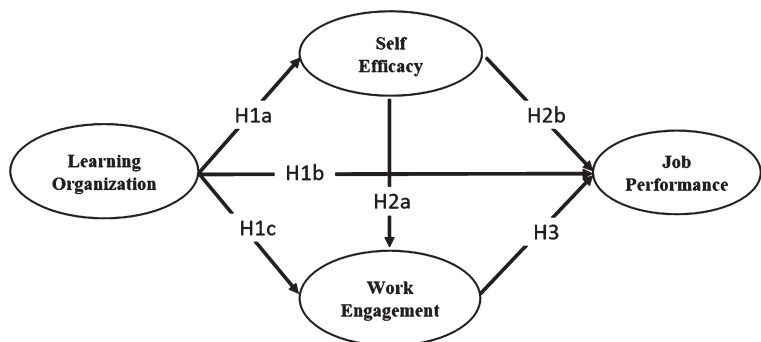


FIGURE 1. RESEARCH MODEL

2010). Thus, learning-organization culture, as an overall perception of organizational support for learning, is likely to lead to increased (a) self-efficacy, (b) work engagement, and (c) job performance. This contention is directly supported by Watkins and Marsick's (1993) learning organization model, which highlights the positive relationship between learning-organization culture and performance. Several empirical studies also proved the positive relationships between learning organization and individual performance (Joo, 2012; Yang, Watkins, & Marsick, 2004) as well as work engagement (Park et al., 2014). Based on the foregoing discussion, we propose the first hypothesis as follows:

H1: The learning organization culture will positively affect teachers' (a) self-efficacy, (b) work engagement, and (c) job performance.

The Effects of Self-Efficacy

Bandura's (1986) social-cognitive theory sheds light on the relationships between self-efficacy, work engagement, and job performance. Social-cognitive theory underscores the idea that individuals' behaviors are influenced by the organizational environment in which they operate but differ depending on their unique individual characteristics (Bandura, 1986). As one of the individual characteristics, self-efficacy plays a central role in social cognitive theory. That is, the term *social* denotes that much of human behavior is generated from the organizational environment, while the term *cognitive* indicates that self-efficacy (in concert with other cognitive determinants) influences human motivation, attitudes, and behavioral performance. Given that engagement has been regarded as either job attitudes (Newman, Joseph, Sparkman, & Carpenter, 2011) or "motivational state" (Salanova & Schaufeli, 2008, p. 118), it is likely that self-efficacy affects work engagement as well as job performance. Empirical evidence supports the relationships of self-efficacy with work engagement (Luthans & Peterson, 2002; Pati & Kumar, 2010), teachers' in-role behaviors (Ross, Cousins, & Gadalla, 1996; Soodak & Podell, 1996), and work-related performance (Stajkovic & Luthans, 1998). Thus, the second hypothesis is suggested as follows:

H2: Teachers' self-efficacy will positively affect their work engagement and job performance.

The Effect of Work Engagement

Work-motivation theory (Vroom, 1964) explicitly proclaims that motivation precedes behaviors. As a *motivational* construct (Salanova & Schaufeli, 2008; Salanova, Agut, & Peiró, 2005), work engagement should be considered an antecedent of job performance because it can motivate teachers to perform their in-role behaviors well. In particular, it is likely that teachers with high levels of engagement would exhibit enhanced performance, as they invest more energy in their tasks and work with greater

intensity for longer periods of time. Several researchers (e.g., Bakker et al., 2012; Rich, Lepine, & Crawford, 2010) confirmed the positive effect of work engagement on job performance. Accordingly, the third hypothesis is set forth as follows:

H3: Teachers' work engagement will positively affect their job performance.

The Mediating Effects of Self-Efficacy and Work Engagement

The synthesis of the three theories (i.e., organizational-support theory, social-cognitive theory, and work-motivation theory) and the supporting empirical evidence discussed previously reveals not only the direct relationships between the constructs in the research model but also the mediating roles of self-efficacy and work engagement between the learning organization and job performance. These mediating roles of the two constructs are further supported by the theory of planned behavior (Ajzen, 1991), which posits that individual performance is determined by motivation influenced by perceived behavioral control. Perceived behavioral control is defined as "the perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles" (Ajzen, 1991, p. 188) and corresponds to Bandura's self-efficacy concept. The theory of planned behavior also suggests that the influence of general cognition on certain actions in certain environments is mediated by other more immediate context-specific factors. Therefore, it is assumed that the influence of the general perception of the learning organization culture on job performance is mediated by self-efficacy and work engagement. In addition, work engagement mediates the relationship between self-efficacy and job performance, because work engagement is considered a motivational factor (Salanova & Schaufeli, 2008; Salanova et al., 2005) positioned between self-efficacy and job performance. Consequently, the final hypothesis emerges as follows:

H4: Teachers' self-efficacy and work engagement will mediate the relationship between the learning-organization culture and their job performance.

Research Methods

Samples

Our data came from high school teachers at workforce-education institutions in Korea for the purpose of identifying the relationships between the learning organization, teachers' self-efficacy, work engagement, and job performance. A total of 593 responses were acquired from teachers in 21 workforce-education institutions. Rather than recruiting

TABLE 1 DEMOGRAPHIC CHARACTERISTICS

DEMOGRAPHIC CHARACTERISTICS	CATEGORY	FREQUENCY	PERCENT
Gender	Male	263	54.7
	Female	218	45.3
	Total	481	100
Age	35 or younger	101	21.0
	36 ~ 45	110	22.9
	46 ~ 55	232	48.2
	56 or older	38	7.9
	Total	481	100
Teaching Experience	10 years or less	127	26.4
	11 ~ 20	94	19.5
	21 ~ 30	216	44.9
	31 year or more	44	9.1
	Total	481	100
Education Level	Undergraduate	243	50.5
	Master's	223	46.4
	Doctorate	15	3.1
	Total	481	100

teachers directly, we contacted the principals of each school, and they randomly chose about 40 teachers from their respective institutions. A total of 840 surveys were distributed with the notice of voluntary participation and a total of 593 were returned, for a response rate of 70.5%. Following the listwise deletion of missing data (Kline, 2011), 573 responses were retained. After identifying and excluding univariate outliers by inspecting frequency distributions of z scores and multivariate outliers based on the Mahalanobis distance statistic (Field, 2009; Kline, 2011), a total of 481 surveys was used as a final format of the research data. The demographic characteristics of the participant teachers varied in terms of gender, age, work experience, and education, as shown in Table 1.

Measures

We used four constructs, including learning organization, self-efficacy, work engagement, and job performance, to investigate the four hypotheses we presented previously within the context of the Korean workforce education in high schools. To measure the research variables, online self-report surveys, using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), were implemented for all of the latent variables. The quality (validity and reliability) and practicality (easy to use and short) were considered for the selection of specific measures.

Learning organization

Instead of the original 43-item or 21-item versions of the Dimensions of the Learning Organization Questionnaire (Watkins & Marsick, 1993, 1996; Yang et al., 2004), we used a 7-item version, which represents each dimension of the model (Marsick & Watkins, 2003; Yang, 2005) to capture the learning-organization culture. While this measure has been used and validated by many scholars in various contexts, several studies reported that the measure showed a high level of reliability in the Korean population (e.g., $\alpha = .88$ [Joo, Yang, & McLean, 2014]; $.82$ [Joo, 2010]; $.74$ to $.84$ [Song, Joo, & Chermack, 2009]). The following is a sample item: "In my organization, whenever people state their view, they also ask what others think."

Self-efficacy

The level of self-efficacy was measured using an 8-item scale developed by Jones (1986) with a coefficient alpha of $.71$, which is acceptable for reliability. Modified versions of this scale have been used rather than the original version (e.g., Chen & Bliese, 2002; Jex & Bliese, 1999). The following is a sample item from the scale: "I could have handled a more challenging job than the one I will be doing."

Work engagement

The short version of the 9-item Utrecht Work Engagement Scale (Schaufeli et al., 2006) was implemented to identify the level of teachers' work engagement. As described previously, Schaufeli et al. (2006) conceptualized work engagement with three key dimensions: vigor, dedication, and absorption. Similarly, this shortened scale includes the three key dimensions, each of which consists of three items. This scale has shown high reliability and internal consistency through a number of studies across the world with the Cronbach's alpha ranging from $.85$ to $.92$. The following is a sample item from the scale: "I feel happy when I am working intensely."

Job performance

Individual job performance was measured by a 7-item scale developed by William and Anderson (1991). This scale especially measured the individual's in-role performance and has shown a consistently high level of reliability (e.g., $\alpha = .91$ [William & Anderson, 1991]; $.94$ [Sparrowe, Liden, Wayne, & Kraimer, 2001]; $.92$ [Lee, Mitchell, Sablinsky, Burton, & Holtom, 2004]). An example of this scale is "I perform tasks that are expected of me."

Data Analysis

Using IBM SPSS statistics (version 22), descriptive analyses were conducted for normality, reliability, correlation, and common-method bias testing to confirm the basic assumptions of structural equation modeling

(SEM). Also, the mean scale scores of the study variables were calculated. Using Mplus (version 7.2), confirmatory-factor analysis (CFA) and SEM were primarily employed to examine the relationships between the four latent variables and the 31 observed variables as well as to confirm the hypothesized theoretical model. Because normality is one of the critical assumptions (Kline, 2011), robust maximum likelihood (MLR) was applied as an estimator. Chi-square/df for ML estimation (2.0–5.0), comparative fit index (CFI, >.90), root-mean-square error of approximation (RMSEA, <.10), and standardized root-mean-square residual (SRMR, <.10) were examined as essential fit indices to determine the model fit of the hypothesized structural model (Hu & Bentler, 1999; Kline, 2011; Marsh, Hau, & Wen, 2004). In addition, standardized path coefficients (SPCs), decomposition of effects, and Sobel (1982) tests were conducted to test the research hypotheses.

Results

Descriptive Analyses

Normality

Skewness and kurtosis of each of the individual variables were checked to test univariate normality of the variables. As shown in Table 2, none of the values was larger than 1.0 or less than –1.0, indicating normality of the individual variables. However, the Komogorov-Smirnov statistic showed that all variables were significant, resulting in a mild form of non-normality for all of the items (Kline, 2011).

Reliability and correlation

Table 3 presents the means, standard deviations, reliability, and Pearson correlation among the latent variables. The variables for each construct possessed acceptable internal consistency and reliability based on Cronbach's alpha estimates, ranging from .866 to .925. No multicollinearity issues were found according to the values of Pearson correlation because none of the values of the bivariate correlations was above .85 ($|r| < .85$).

We also tested common-methods variance to identify possible common-method effects. Bagozzi and Yi (1991) defined it as “variance that is attributable to the measurement method rather than to the construct of interest” (p. 426). The measurement method indicates the form of

TABLE 2 SKEWNESS AND KURTOSIS OF EACH OF THE INDIVIDUAL VARIABLES

	LEARNING ORGANIZATION	JOB PERFORMANCE	SELF-EFFICACY	WORK ENGAGEMENT
Skewness	.075	.202	.109	.223
Kurtosis	-.438	-.132	.145	.152

TABLE 3 BASIC DESCRIPTIVE STATISTICS AND CORRELATIONS AMONG LATENT VARIABLES							
	M	SD	α	1	2	3	4
1. Learning Organization	3.460	0.570	.866	1			
2. Job Performance	3.966	0.484	.892	.293**	1		
3. Self-Efficacy	3.619	0.532	.891	.307**	.673**	1	
4. Work Engagement	3.712	0.540	.925	.364**	.594**	.617**	1

Note. **Correlation is significant at the 0.01 level; *M*=mean; *SD*=standard deviation; α =Cronbach's alpha.

TABLE 4 MODEL FIT INDICES FOR CFA				
	CHI-SQUARE (DF)	CFI	RMSEA	SRMR
Estimates	$\chi^2 (246) = 1297.665, p < .001$.887	.066	.052

measurement, such as the content of specific items, scale type, response format, and the general context (Fiske, 1982). Due to its significance, it is popularly tested in the literature before any further analyses in behavioral research (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Initially, the Harman's single-factor test was conducted, and the result indicated that no common-method effects were found in our data set as the majority of the variance was not accounted for by one general factor (40.8%). Because several scholars have warned that Harman's test is insensitive for assessing the extent to which common-method variance may be a problem, we also employed a single unmeasured latent-method-factor approach (Johnson, Rosen, & Djurdjevic, 2011). We added a first-order unmeasured latent factor to all of the items as indicators in our hypothesized model. We identified no issues from the results.

Measurement Model

CFA was conducted to examine the validity of the measurement model in this study. The model-fit estimates of CFA are presented in Table 4, but the estimate of CFI was not acceptable.

Model Respecification

While reexamining the previous analyses, we identified one case in which two items in a same latent variable ask about similar phenomenon. The third question ("I neglect aspects of the job I am obligated to perform") and the fourth question ("I fulfill responsibilities specified in job description") about job performance were similarly asking whether the teachers complete their job with responsibility. Thus, the similar items were correlated in the alternative model.

CFA was conducted to examine the validity of the alternative measurement model. The model fit was evaluated by the same four fit indices. The model fit estimates of CFA are presented in Table 5. We also checked

TABLE 5 MODEL-FIT INDICES FOR CFA OF THE ALTERNATIVE MODEL

	CHI-SQUARE (DF)	CFI	RMSEA	SRMR
Estimates	$\chi^2 (427) = 1232.486, p < .001$.900	.063	.050

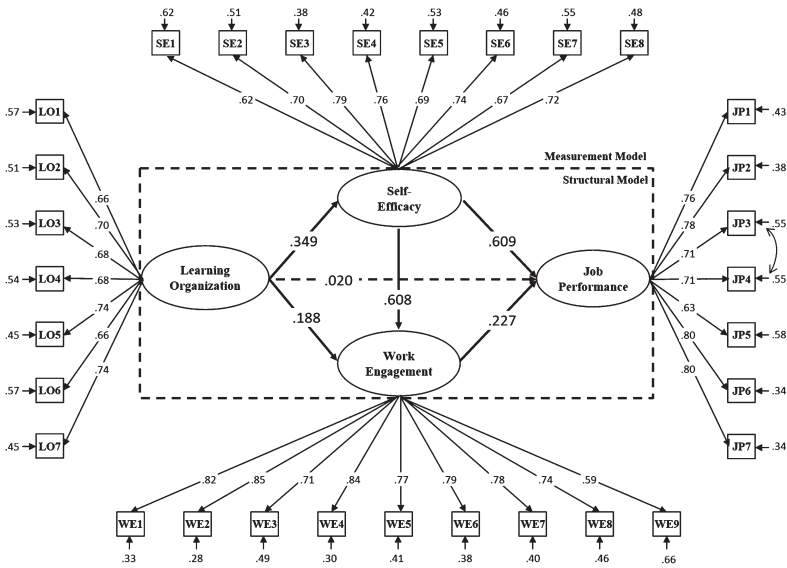


FIGURE 2. STRUCTURAL EQUATION MODEL WITH FACTOR LOADING AND STANDARDIZED PATH COEFFICIENT ESTIMATES

possible improper solutions of our model through parameter estimates with reasonable signs, magnitudes, and standard errors. All factor loadings in the measurement model in Figure 2 were statistically significant ($p < .001$), and the standardized factor loadings ranged from .62 to .84 (>.30, Meyers, Gamst, & Guarino, 2013).

Structural Model

The results for the estimation of our structural model are summarized in Figure 2. Once we identified the possibility of slight non-normality in our data, we implemented MLR estimation (Kline, 2011). Regarding the overall fit of the proposed model in Table 6, the chi-square of the model was statistically significant ($\chi^2 (427) = 1232.486, p < .001$), indicating that the model was not consistent with the covariance data because of the large number of samples ($N = 481$). However, all other model-data-fit indices were satisfied in terms of RMSEA (.063), CFI (.900), and SRMR (.050). As shown in Table 6, we concluded that our research model is acceptable.

Squared multiple correlations (R^2) in the structural equations indicated that job performance ($R^2 = .588$) and work engagement ($R^2 = .471$)

TABLE 6 OVERALL FIT OF PROPOSED MODEL

	CHI-SQUARE (DF)	CFI	RMSEA	SRMR
Proposed Model	$\chi^2(427) = 1232.486, p < .001$.900	.063	.050

had large effect sizes whereas self-efficacy ($R^2 = .123$) had a medium effect size, according to the Cohen's R^2 (Kotrlík & Williams, 2003), which defines .260 as a large effect size, .130 as a medium effect size, and .0196 as a small effect size. Signs and magnitudes of parameter estimates in both the measurement and structural models made sense, and no negative variances and values were out-of-range (i.e., $r < 1$). The standard errors of factors in the measurement equations were smaller than the standard deviations of their indicators, and the standard errors of predictors in the structural equations were smaller than the standard deviations of their outcome variables. As a result, the standard errors were reasonable. The results of the overall fit and the estimation solution indicated that the proposed model reasonably fit the data as presented in Figure 2.

Hypothesis Testing

As shown in Figure 2, all research hypotheses were tested. SPC estimates and Sobel (1982) tests were primarily utilized to measure the magnitudes of the paths and examine mediating effects among the proposed research variables (see Tables 7 and 8).

The first hypothesis is partially supported as shown in Table 7 because the direct effect of learning-organization culture on job performance (SPC = .020) was not statistically significant, though the estimates for the direct effects of the learning-organization culture of Korean workforce-education high schools on teachers' self-efficacy (SPC = .349) and work engagement (SPC = .188) were statistically significant. The direct effect of learning organization on job performance was originally significant, but became weak. The mediators possibly made the direct relationship insignificant. The second hypothesis is fully supported as the direct effects of teachers' self-efficacy on their work engagement (SPC = .608) and job performance (SPC = .609) were statistically significant. In addition, the estimate of the direct effect from work engagement to job performance (SPC = .227) was statistically significant, which supports the third hypothesis. For the final hypothesis, which mainly examines the mediating effects of self-efficacy and work engagement, we conducted Sobel tests (Sobel, 1982) based on approximate standard errors (Kline, 2011). The estimates are summarized in Table 8.

The results of the Sobel tests show that the indirect effects of the learning organization culture of Korean workforce-education high schools on both work engagement and job performance of teachers reflected by their self-efficacy and work engagement were statistically significant at the .01 level: $|z|$ ranges from 2.597 to 4.782. The results also demonstrate that the indirect effect of a learning organization culture on job performance

TABLE 7 DECOMPOSITION OF EFFECTS IN THE STRUCTURAL MODEL

PATH	DIRECT EFFECTS	INDIRECT EFFECTS	TOTAL EFFECTS
LO → SE	.349**	–	.349**
LO → WE	.188**	.212**	.400**
LO → JP	.020	.304**	.324**
SE → WE	.608**	–	.608**
SE → JP	.609**	.138**	.747**
WE → JP	.227**	–	.227**

Note. **All effects are statistically significant at the .01 level except the direct effect between LO and JP.

TABLE 8 SOBEL TESTS FOR MEDIATING EFFECTS OF SELF-EFFICACY AND WORK ENGAGEMENT

PATH: IV → MV → DV	a	SE _a	b	SE _b	z
LO → SE → JP	0.319	0.058	0.569	0.069	4.576**
LO → WE → JP	0.205	0.054	0.178	0.050	2.597**
LO → SE → WE	0.319	0.058	0.726	0.075	4.782**
SE → WE → JP	0.726	0.075	0.178	0.050	3.341**

Note. IV=independent variable; MV=mediating variable; DV=dependent variable; LO=learning organization; SE=self-efficacy; WE=work engagement; JP=job performance; a=unstandardized path coefficient for the path IV → MV; SE_a=standard error of the path IV → MV; b=unstandardized path coefficient for the path MV → DV; SE_b=standard error of the path MV → DV; z=Sobel test statistic.

** $p < .01$.

reflected through self-efficacy was statistically significant at the .01 level ($z = 4.576$) and that the indirect effect of self-efficacy on job performance reflected through work engagement was statistically significant at the .01 level ($z = 2.597$). As a result, the fourth hypothesis was fully supported.

Conclusions

Summary Results and Discussions

To summarize the results, the proposed research model is applicable to the context of Korean workforce-education institutions based on the model fits of the measurement and structural models. In addition, the four developed hypotheses were fully supported except for Hypothesis 1—the direct effect of learning organization on job performance. Hypotheses tests provided several meaningful insights for suggesting strategic implications for school-performance improvement based on the path depositions of direct and indirect paths among the research variables.

The results show that the direct effect of the learning organization on teachers' job performance was not significant (Hypothesis 1b), although

the two constructs were significantly correlated. The independent direct effects on teachers' level of self-efficacy and work engagement were significant (Hypotheses 1a and 1c). In addition, teachers' level of self-efficacy was a critical determinant of teachers' work engagement and job performance (Hypotheses 2a and 2b). The level of teachers' work engagement was also a significant predictor of job performance (Hypothesis 3). More importantly, the self-efficacy and work engagement levels of teachers were core components to maximize the effect of the learning-organization environment on teachers' job performance as mediators (Hypothesis 4).

The results could reveal the importance of interactive relations between organizational and environmental factors and the behavioral components of individuals to improve performance. We also found that, although the learning-organization concept is a trendy focus of workforce-education institutions in Korea, more attention should be given to teachers' individual behaviors, including the levels of teachers' self-efficacy and work engagement.

Implications

In the Korean workforce-education system, along with continued educational-reform efforts, many aspects of the school system are being developed into a supportive learning environment (Chung et al., 2007). However, a lack of focus on teachers' individual factors still persists, and the literature has dominantly relied on principals' leadership, which can cause ineffective school performance (Park, 2012). From the results, we found that teachers' self-efficacy-based work engagement, which is promoted by the learning-organizational culture, is at the core of improving teachers' job performance, which would be the key determinant for overall school performance.

In the Korean educational system, the principals' leadership is considered the most influential component on school innovation and improvement in the overall quality of schools (Park, 2012; Park & Jeong, 2013). Along with the Korean literature, we could argue that the Korean educational system relies too heavily on the principals' leadership and overly expects that leadership could handle many of the issues that schools encounter. As leadership is one of the main structures of the learning organization, certain types of issues can certainly be resolved and improved by the influences of leaders. As the research results indicate, the direct path of the learning organization

has no significant effect on performance, but the path becomes significant when the behavioral factors of teachers are taken into account. From the practical point of view, teachers' behavioral factors and the school system and environmental factors should receive more attention. Maximizing teachers' self-efficacy and encouraging work engagement would be critical factors for overall school performance. In summary, more focus

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should be given to individual teachers, considering how the environmental factors could expand their functional autonomy. This may be the key to increasing teachers' self-efficacy and work engagement.

Collectivism and hierarchy are the most common organizational cultures in Korea (Chai, Jeong, Kim, Kim, & Hamlin, 2016), and the school system shows strong hierarchy in terms of the relations among teachers and school principals (Chung et al., 2007; Stevens, 2013). This cultural trend could be a critical hindering factor for innovative school activities, and relying on school principals' leadership in this circumstance would be risky. To facilitate more dynamic school performance, the leader-based hierarchical school culture should be radicalized and teacher-based, and self-oriented performance improvement with the learning organizational culture should be the focus.

Theoretically, the dominant research area in Korean school performance and innovation is the principals' leadership in the context of Korean workforce-education institutions (Park, 2012), and school environmental factors have been considered the most influential for the improvement of teachers' performance (Chung et al., 2007; Park & Jeong, 2013). However, in the current research, we found that teachers' perceptual self-oriented behaviors such as self-efficacy and work engagement have a critical influence on their job performance. Cultural factors jointly and collaboratively affect job performance along with behavioral factors, but environmental factors do not play a key role independently in improving the job performance of teachers. From this point of view, more opportunities should be provided to teachers to increase their level of self-efficacy through both formal and informal learning activities. Furthermore, the level of self-efficacy and work engagement could be promoted by various environmental factors, such as the support of institutional leadership and the nationwide educational-support policy and system for teachers. Therefore, future studies need to explore more environmental factors influencing the level of self-efficacy and work engagement.

The current research suggests a new paradigm, one that criticizes the leadership-oriented school research trends and suggests the importance of the distinctive perspective of focusing on teacher self-oriented behavior and environmental factors. In future research, to capture the holistic phenomenon in the school context, a more multi-angled approach should be considered to examine various aspects of the school structure.

To facilitate more dynamic school performance, the leader-based hierarchical school culture should become radicalized and teacher-based, and self-oriented performance improvement with the learning organizational culture should be the focus.

Limitations

Although the measurement and analysis issues were technically well performed, several limitations should be acknowledged in terms of data-collection and analysis strategies to capture more comprehen-

sive phenomena in the context of workforce-education institutions. First, although the research samples were collected from a variety of Korean workforce-education institutions, more sample diversity should be considered for future research. Collecting diverse samples from several types of schools could provide more meaningful and generalized results. In addition, international comparison research is strongly recommended, which could represent a constructive opportunity to learn from different cultures and strengthen global competitiveness.

Furthermore, as the roles of public education for development of the community are receiving more attention, multi-angled views should be considered for future research involving parents, students, and national-level policy makers as research samples. Comparing similarities and differences by gender and age could also be helpful to fully understand the relationships between the constructs. Second, the current research adapted a self-administrative perceptual data-collection method. For future studies, cross-evaluation-based data collection should be considered to increase the validity of the collected data and to minimize the social desirability-based bias. Last, but not least, from the research-design standpoint, qualitative data collection should be considered for future research. The qualitative research design could provide a chance to capture story-based narrative data for analyzing and capturing the phenomenological and behavioral patterns of the sample.

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