

# The Role of School Support and Environment in Fostering Teacher Engagement: A Structural Equation Modelling Approach

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## Abstract

Teacher engagement plays a critical role in enhancing educational outcomes and organizational success. However, the factors influencing teacher engagement, particularly the roles of school support and environment, remain inadeptly reexplored in the academic context. Sustaining teachers' work engagement significantly impacts their schools and students. The aim of this study is to investigate factors that influence teachers' engagement while performing their roles inside the school. School support and school environment are used to uncover its effect on teachers' work engagement. In addition, the mediation role of the school environment on the association between school support and teachers' work engagement is tested by using structural equation modeling. To achieve that, a survey containing four sections was used to collect data from 357 teachers. The findings of this study reveal the association between school support, teachers' knowledge, perception of the school environment, and work engagement. In addition, the school environment is found to mediate the association between school support and work engagement. Based on these findings, implications for sustaining teachers' engagement and future studies are discussed.

## Keywords

Teacher Engagement, School Support, School Environment

## 1. Introduction

Teacher job engagement is considered one of the positive aspects that schools should take into account due to its positive effects on achieving what is expected of them (Costa et al., 2014; Harter et al., 2002; Kahn, 1990; Klassen & Tze, 2014;

Saks et al., 2022; Schaufeli & Bakker, 2004). Since job engagement is one of the most important indicators for measuring the maturity and quality of work environments in different organizations, researchers in the educational field have focused on studying it and examining the factors influencing the level of job engagement among teachers (Harter et al., 2002; Nurna Dewi et al., 2021; Saks et al., 2022). For instance, in a narrative review of 40 studies from 20 countries, Saks et al. (2022) declared that organizational engagement is associated with organizational commitment, job satisfaction, job performance, and organizational citizenship behavior. Similarly, in a cross-sectional research study of 1415 employees who work for three different private and public organizations, Upadyaya and Salmela-Aro (2015) found that leaders' support, measured by servant leadership style, was positively associated with employee work engagement, which, in turn, was associated with a low level of work burnout and depression and a high level of recovery and life satisfaction.

Scholars who investigated work engagement have provided different definitions of this term. For instance, Kahn (1990: p. 694) defines job engagement as "the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances". Job engagement can also be defined "as a positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption" (Costa et al., 2014; Schaufeli & Bakker, 2004). While defining employee engagement as a term "an individual's involvement and satisfaction with as well as enthusiasm for work." (Harter et al., 2002)

Studies have shown that work engagement is crucial for any organization's success (Kim et al., 2019; Klassen & Tze, 2014; Köse, 2016; Syomwene, 2017). For example, a study used a meta-analysis of data collected from 36 organizations. Harter et al. (2002) concluded that employee engagement and employee satisfaction are related positively to customer satisfaction and the organization's outcomes. In educational settings, an integrative literature review of 34 studies, Klassen and Tze (2014) highlighted that teacher engagement is significant for teachers' well-being and students' success. In addition, they draw attention to the importance of fostering a supportive environment that increases teacher engagement via effective leadership, professional development, and collaboration. Furthermore, in a mixed-method design research study of 42 preschool teachers from 21 Kenyan public and private schools, Syomwene (2017) found that teachers were providing minimal support to students due to limited time, heavy workloads, and a lack of motivation. In addition, the school environment, which appeared to have poor maintenance of materials and safety matters, negatively influenced students' outdoor play.

A school environment where teachers are provided with proper support, including a feeling of autonomy relatedness and competent physical resources, is more likely to have engaged teachers (Ashkanasy et al., 2014; Deci & Ryan, 2000; Gagné, 2003; Gagné & Deci, 2005; Meyer & Gagné, 2008; Schaufeli & Bakker,

2004). Studies have indicated that this feeling can foster individual intrinsic motivation as it makes them perceive their jobs as meaningful and aligned with their values (Ashkanasy et al., 2014; Gagné, 2003; Gagné & Deci, 2005; Meyer & Gagné, 2008). In fact, when personnel perceive their school as a supportive environment, they are more likely to feel control over their tasks and decisions, which can lead to job involvement and satisfaction (Humphrey et al., 2007). In quantitative data collected from 80 teachers at SDN, Nurna Dewi et al. (2021) showed that school environment and work engagement predict job satisfaction.

Furthermore, an individual's ability to balance their personal and professional lives can lead to greater work engagement. Schools are expected to implement policies that support the work-life balance of their teachers and administrative workers (Wayne et al., 2017). In recent years, there has been a tendency to advocate for work-life balance by implementing remote work options, flexible working hours, etc. Bakker et al. (2011) advocated scholars to investigate contextual factors that have an impact on work engagement. In addition, Schaufeli and Salanova (2011) recommended conducting research regarding an environment of engagement and related constructs. In order to have teachers who are engaged, there is a need to have a positive school environment and proper school support that boosts their engagement and dedication (Kobuladze, 2017; Wang & Zhou, 2022). In addition, the school environment and teachers' ability to utilize suitable emotional labor strategies need to be improved (Yao et al., 2015).

The primary purpose of this paper is to determine the relationship between the role of school support and school environment on teachers' work engagement. Thus, it brings to six research objectives of this current study: 1) to determine the level of perceived school support by teachers in the Kingdom of Saudi Arabia (KSA), 2) to investigate the reality of the perceived school environment by teachers, 3) to determine the knowledge of the school environment by teachers, 4) to examine the potential association between school support and work engagement, 5) to examine the potential association between school environment and work engagement, and 6) to examine the mediation influence of the school environment on the relationship between school support and work engagement. In line with the highlighted objectives, the questions that this research aims to answer are:

- 1) What is the relationship between school support and job involvement from KSA teachers' perspectives?
- 2) What is the relationship between school environment and job involvement from KSA teachers' perspectives?
- 3) Does the school environment play a role as a mediator in the association between school environment and job involvement in KSA teachers' perspectives?

## 2. Background: Literature Review

Studies have indicated that various outcomes of the school environment and school support affect teachers' behaviors, work engagement, job satisfaction, and

well-being (Wang & Zhou, 2022). The school environment covers the physical, social, and psychological conditions with which individuals inside the school interact. On the other hand, school support refers to relationships, resources, and systems that assist teachers and students in achieving professional and academic success. Together, school environment and school support can play critical roles in shaping teachers' experiences and behaviors. Teacher perception of their school environment can influence the association between school support and job involvement.

## 2.1. School Support and Job Engagement

Organizational support factors have been studied to investigate their impact on employees' job satisfaction, work engagement, turnover intention, well-being, and student performance (Gu, 2014; Johnson et al., 2012; Rothmann & Fouché, 2018; Skaalvik & Skaalvik, 2014; Syomwene, 2017; Wang & Zhou, 2022). For instance, in a quantitative cross-sectional research study of 380 IT employees in India, Nijhawan et al. found that organizational support positively influences IT employee's efficiency and quality of work. In a quantitative study of 25,135, Johnson et al. (2012) found that school support contributes to improved student performance and achievement. In fact, organizational support in the educational field has been studied as a whole concept, which includes professional development, administrative support, empowerment, and policies (Dudasova et al., 2024; Johnson et al., 2012; Rasheed, 2020; Song et al., 2018).

School support can be done by implementing policies and principals' practices that aim to empower teachers, which in turn increase teachers' levels of job engagement and job involvement. For instance, in a cross-sectional study conducted by collecting data from 513 secondary school teachers in public schools in South Africa, Rothmann and Fouché (2018) declared that supportive leadership was a predictor of teachers' positive work engagement, work-related essential psychological needs satisfaction, and negative intention to leave their jobs. School support can appear in many forms. For instance, through semi-structured interviews with 300 teachers, Gu (2014) reported that when teachers feel supported and recognized, they are more likely to have a high level of morale, commitment, and motivation. School support was found to be positively related to work engagement, job performance, job satisfaction, and work-related well-being (Lavy et al., 2024; Rasheed, 2020). According to a survey collected from 320 secondary school teachers in the Lahore district, Rasheed (2020) found that social support predicts work engagement and performance. In addition, social support and work engagement positively predict job performance. In a quantitative study conducted by collecting surveys from 47 principals and 235 teachers, Lavy et al. (2024) found that teachers' perceived organizational support for strengths use was associated with teachers' strength use and positive work-related well-being. Schools' principals' perceived organizational support for strengths use did not correlate with teachers' perceived organizational support for strengths use or their utilization of

strengths. However, it was connected to teachers' sense of meaning and job satisfaction.

In general, a lack of school support, which allows unaccepted behaviors to be present in the school, will result in negative consequences. For instance, in a qualitative case study conducted by collecting data from 27 black male teachers who work for 14 different schools, [Bristol and Goings \(2019\)](#) showed that participants whom white colleagues viewed as incompetent or overqualified were more likely to feel alienated. In a comprehensive meta-analysis of 34 studies of 63 attrition moderators, [Borman and Dowling \(2008\)](#) suggest that the environment's characteristics (e.g., school support, higher salaries, teacher collaboration, and networking) predict teachers' attrition. Similarly, in a longitudinal study on a sample of 202 teachers, [Dudasova et al. \(2024\)](#) found that support for psychological capital mediates the effects of perceived social support on changes in work engagement during COVID-19. There is agreement among the studies regarding the advantages of support for teachers. In a study that was conducted by collecting surveys from 21,154 primary and 16,585 secondary school teachers in China, [Wang and Zhou \(2022\)](#) showed a positive relationship between school support and teacher engagement in educational research and job satisfaction, and teacher engagement plays a mediator role in the association between school support and job satisfaction.

## 2.2. School Environment and Job Engagement

Scholars demonstrated that when teachers work in a school that makes them feel they are in a positive school environment, they are more likely to be satisfied, engaged, motivated, have a high level of well-being, and have lower turnover intentions ([Bahtilla & Hui, 2021](#); [Lavy et al., 2024](#); [Mahasneh et al., 2016](#); [Syomwene, 2017](#)) For instance, collected data from 550 Cameroonian teachers, [Bahtilla and Hui \(2021\)](#) found that the school environment, which contains four constructs (teachers' collaboration, motivation, instructional materials, and teachers' participation in decision-making), predicts teachers' level of job satisfaction. Furthermore, increasing teachers' knowledge regarding the school environment and culture significantly predicts their engagement and other positive behaviors. For example, in a cross-sectional research study on 481 teachers at 21 Korean workforce-education schools, [Song et al. \(2018\)](#) showed the positive impacts of learning-organization culture on teachers' work engagement and self-efficacy. Furthermore, based on collected surveys from 2569 Norwegian teachers who work for elementary and middle schools, [Skaalvik and Skaalvik \(2014\)](#) declared that a school environment that supports teachers' autonomy predicts a higher level of work engagement.

The school environment has been found to impact teachers' motivation, level of burnout ([Timms & Brough, 2013](#)), teachers' perceptions toward their students' behaviors ([Elmosaad, 2024](#)), and engagement level ([Mahasneh et al., 2016](#)). Furthermore, in a cross-sectional study conducted by collecting surveys from 305

Saudi male and female teachers, [Elmosaad \(2024\)](#) found that 86.6% of the sample had a good knowledge of the school environment, and 73.8% had a positive perception of their working environment. In addition, the study's results uncovered that teachers with positive perceptions toward their school environment were likely to have positive perceptions toward students' practices to enhance the school environment. In a cross-sectional and longitudinal analysis of data collected from 312 Queensland teachers from non-government schools, [Timms and Brough \(2013\)](#) highlight that the psycho-social work environment contributes to teachers' work engagement and burnout. Teachers' levels of work engagement are a predictor of their schools' environment. [Mahasneh et al. \(2016\)](#) conducted a cross-sectional study by collecting surveys from 576 Jordanian school teachers. They found that when teachers' levels of work engagement are high, they perceive their school environment positively and vice versa.

### 2.3. School Environment as a Mediator

In general, a school environment plays a critical role in mediating the association between several variables that have been studied, influencing both students and teachers from their perspectives. For instance, in a non-experimental quantitative research design on 400 Filipino students, [Almonia and Oliva's \(2023\)](#) study revealed that there is a significant relationship between classroom environment and teacher creativity, and classroom environment plays a mediator role in the association between teacher creativity and student academic stability. Recent studies have investigated how the school environment predicts job burnout, using job satisfaction as a mediator. Grayson and Alvarez conducted a quantitative study involving data from 206 educators in Ohio. Their findings revealed that the school environment is linked to various dimensions of burnout. Additionally, they found that the negative relationship between these variables is mediated by teachers' satisfaction levels, affecting both emotional exhaustion and depersonalization. In a cross-sectional study that collected 703 surveys from primary and high school teachers in China, [Yao et al. \(2015\)](#) found that the school environment positively influences deep acting and negatively influences surface acting. Additionally, surface acting was identified as a positive predictor of teachers' emotional exhaustion. The study also found that the relationship between the school environment and emotional exhaustion is mediated by emotional labor. In a quantitative study of 537 employees in Georgia, [Kobuladze \(2017\)](#) found that organizational justice and extraversion have moderated mediation influence on the association between social support and work-related stress. The organizational environment acts as a mediator in the association between organizational justice and work-related stress. In a survey of 433 teachers who work for 23 different Turkish schools, [Köse \(2016\)](#) found a positive relationship between perceived organizational support and school climate and work engagement. In addition, school climate and perceived school support are positively correlated. Furthermore, school climate influenced the association between organizational support and work engagement

among teachers.

In light of the conclusions described previously, the current study predicts that teachers who perceive the school environment positively, who are knowledgeable about the school environment, and who work in a supportive school environment will be more likely to have a high level of job involvement. Based on this conceptualization, the current study hypothesizes that:

*H1: School support predicts teachers' job involvement.*

*H2: School support predicts teachers' knowledge about the school environment.*

*H3: School support predicts teachers' perception of the school environment.*

*H4: Teacher's perception of the school environment predicts their job involvement.*

*H5: Teachers' knowledge about the school environment predicts their job involvement.*

*H6: Teachers' knowledge about the school environment mediates the association between school support and their job involvement.*

*H7: Teachers' perception of the school environment mediates the association between school support and job involvement.*

### 3. Methods

#### 3.1. Participants

Recruitment efforts yielded a sample of 357 teachers who were 100% Saudi Arabian Nationals, 56.9% male, and who reported average ages of 44.91 years ( $SD = 7.02$ ). Around 44% of participants were elementary school teachers, 25% were middle school teachers, and 30% were high school teachers. A majority of the respondents had bachelor's degrees (43.6%), taught in elementary schools (82%), and reported having worked in the school system an average of 19.62 years ( $SD = 7.70$ ).

Teachers who participated in the current study were selected through **random sampling**. An electronic survey was distributed to teachers in Taif, Kingdom of Saudi Arabia. The sample represents a diverse group of educators across different school levels within the capital. However, it may not fully capture the national diversity of the teaching workforce in other regions of the Kingdoms. **Inclusion criteria** required participants to be actively employed as teachers in Taif public schools, while **exclusion criteria** excluded teachers from other educational roles, such as administrative staff or non-teaching personnel.

#### 3.2. Measures

##### 3.2.1. School Support

School support was measured using a 12-item Likert scale instrument adapted from Eisenberger et al.'s study (Eisenberger et al., 1986). The school construct generally assesses the extent to which teachers feel valued and supported by their school. This includes access to needed assistance and their perceptions regarding

the school's level of care toward their well-being and performance. In addition, teachers' perceptions of their school's responsiveness to their complaints, opinions, and accomplishments are also affected. Each item is measured on a 5-point Likert scale ranging from 1 (Does not apply) to 5 (Applies perfectly). The instrument was shown to have high internal consistency (Cronbach's alpha = 0.90).

### 3.2.2. Work Engagement

The UWES scale assesses how energetically and passionately teachers embrace themselves in their jobs and how genuinely they are immersed in their work activities. The UWES instrument contains 17 Likert scale items, and each item is scored on a 5-point Likert scale ranging from 1 (Does not apply) to 5 (Applies perfectly). The UWES instrument measures work engagement within three subscales: vigor, dedication, and absorption. Six items assessed vigor (e.g., "At my work, I always persevere, even when things do not go well"), five items assessed dedication (e.g., "I am proud of the work that I do"), and six items assessed absorption (e.g., "I am immersed in my work"). The instrument was shown to have high internal consistency (Cronbach's alpha = 0.90).

### 3.2.3. School Environment

Two subscales of a questionnaire validated by Elmosaad (Elmosaad, 2024) were used to measure two aspects of the school environment: 1) an eight-item sub-scale assessing teachers' perceptions of the school environment and 2) a five-item sub-scale evaluating teachers' knowledge of the school environment. The teachers' perceptions toward the school environment subscale assesses the extent of suitable facilities their schools have for implementing activities and the willingness of teachers to assist students personally, academically, and socially. Additionally, it evaluates teachers' readiness to perform their jobs and their role in shaping the school environment. The teacher's knowledge of the school environment subscale assesses the relationships among teachers, students, and school facilities, serving as a place for healthy education and behavior standards. The changes in the school's physical environment and policies reduce violence and increase expected and accepted social interactions, which influence educational objectives. This subscales were measured by using the binary response format ("yes" or "no") (e.g., The school environment refers to relationships among teachers, students, and school facilities). According to the current study sample, the Cronbach's alpha of the scale is 0.75.

## 4. Data Collection

The current study employed a cross-sectional design to examine the potential association between teachers' perceptions of school support and job involvement, as well as teachers' perceptions of the school environment and job involvement. To collect surveys from the participants, ethical approval was obtained from the Ethics Committee at Taif University. Before participating in the online survey, all participants were asked if they wanted to participate in the study. In addition, they

were informed that their participation in the study was voluntary.

The study used a questionnaire comprising four sections (Demographic Section, School Support Section, and School Environment Section, which is divided into two sections: “School Environment Knowledge” and “School Environment Perception, Teacher’s Work Engagement Section”). It is important to mention that the main sections of the questionnaire have been validated and used in prior studies. For example, the school environment section has been applied in studies conducted in the Kingdom of Saudi Arabia (Elmosaad, 2024), the school support section has been used in various studies across different countries (Eisenberger et al., 1986), and the job involvement section has also been utilized internationally (Alkorashy & Alanazi, 2023).

#### **4.1. Procedure**

The current study’s sample was recruited from elementary, middle, and high school teachers in Taif, Saudi Arabia. They were asked to complete a 12 to 15-minute survey. A Scientific Research Ethics Committee (SREC) evaluated and approved the study on May 1st, 2024 (Approval Number: 45-307). Then, the survey with the approval document was sent to the Ministry of Education, and the survey was approved and sent to teachers who work for the General Directorate of Education in Taif. After participants consented to participate in the study, they completed the following surveys: the demographic questionnaire, the UWES instrument, and the Teachers’ Perception and Knowledge Questionnaire adapted from Elmosaad (2024). After participants completed the surveys, responses were collected digitally by the principal investigators.

#### **4.2. Statistical Analysis Plan**

Categorical demographic variables that will be analyzed with frequencies and percentages include degree, teaching specialty, gender, school level, and qualification type. Numeric demographic variables will be analyzed using central tendency and normality measures, including age and years of experience. All data analysis will be conducted using IBM SPSS.

#### **4.3. Statistical Analysis Plan**

Demographic variables were analyzed using frequency, central tendency, and variation measures. Pearson correlation coefficients were used to examine bivariate associations between school support, work engagement, teachers’ knowledge of the school environment, teachers’ perception of the school environment, age, and years of experience. Structural equation modeling using the Lavaan package in R examined whether school environment factors (teachers’ knowledge and perception of the school environment) mediated the associations between school support and work engagement. Each SEM model’s direct and indirect effects were assessed to examine the interrelationships between study variables. SEM model fit was evaluated using indices such as the Chi-square test, Comparative Fit Index (CFI), and

Root Mean Square Error of Approximation (RMSEA), ensuring a robust assessment of the hypothesized models. All data analysis was conducted using the R programming language. (Table 1)

**Table 1.** Demographic characteristics of study participants.

Characteristic		N = 357 <sup>1</sup>	
<b>Age</b>	44.91 (7.02)	<b>Degree</b>	
<b>Years of Experience</b>	19.62 (7.70)	Bachelor	265 (75%)
<b>Teaching Specialty</b>		Master	61 (17%)
Arabic Language	63 (18%)	Ph.D.	11 (3.1%)
Computer Sciences	10 (2.8%)	Postgrad. Diploma	18 (5.1%)
Early Childhood	8 (2.2%)	Unknown	2
English Language	11 (3.1%)	<b>Gender</b>	
Home Economics	11 (3.1%)	Female	155 (43%)
Management	11 (3.1%)	Male	202 (57%)
Math	36 (10%)	<b>School Level</b>	
Psychology	7 (2.0%)	Elementary School	158 (44%)
Religious Studies	44 (12%)	High School	105 (29%)
Science	58 (16%)	Middle School	94 (26%)
Social Sciences	12 (3.4%)	<b>Qualification Type</b>	
Special Education	57 (16%)	With educational prep.	329 (92%)
Sport Education	29 (8.1%)	Without educational prep.	28 (7.8%)

<sup>1</sup>Mean (SD); n (%).

## 5. Results

### 5.1. Reliability Results

Table 2 shows the Cronbach's alpha was used to assess the internal reliability of the school support instrument, the UWES-17 instrument, and the school environment instrument. All the psychometric instruments were shown to have good internal consistency, with Cronbach's alpha exceeding 0.70.

**Table 2.** Reliability Results

Variable	Alpha
School Support	0.90
Work Engagement	0.90
<u>School Environment</u>	<u>0.75</u>

### 5.2. Correlation Results

Table 3 contains the Pearson Correlation coefficients used to examine the association

between school support, work engagement, school environment factors (knowledge and perception of school environment), age, and years of teaching experience. School support was shown to have small to moderate positive associations with work engagement ( $r(355) = 0.51, p < 0.001$ ), all the work engagement subscales, teacher's knowledge of the school environment ( $r(355) = 0.38, p < 0.001$ ), and teacher's perception of the school environment ( $r(355) = 0.48, p < 0.001$ ). Please see **Table 3** for further information.

**Table 3.** Correlation matrix of main study variables, age, and years of experience.

Variable	M	SD	1	2	3	4	5	6	7	8
1. School Support	34.63	9.48								
2. Work Engagement	46.31	11.35	0.51**							
3. Vigor	16.33	4.90	0.47**	0.80**						
4. Dedication	14.98	4.17	0.41**	0.82**	0.40**					
5. Absorption	15.00	4.44	0.40**	0.90**	0.57**	0.72**				
6. Teacher's Knowledge	4.22	1.05	0.38**	0.35**	0.48**	0.14**	0.23**			
7. Teachers Perception	6.84	1.46	0.48**	0.41**	0.38**	0.33**	0.31**	0.53**		
8. Age	44.91	7.02	-0.02	0.13*	0.09	0.13*	0.1	0.02	0	
9. Years of Experience	19.62	7.70	-0.02	0.13*	0.11*	0.11*	0.11*	0.04	0.07	0.81**

\* $p < 0.05$ ; \*\* $p < 0.01$ .

### 5.3. Mediation Results

Structural equation modeling (SEM) was used to examine the relationships between the independent variables (school support), dependent variables (work engagement), and mediator variables (teachers' knowledge of the school environment and teachers' perception of the school environment). The WLSMV (Weighted Least Squares Mean and Variance adjusted) estimator was used as a robust method of model estimation due to the binary responses used in the model and the multivariate non-normality found within the model. The model is shown to have a good fit:  $\chi^2(807) = 2124.77, p < 0.001$ , CFI = 0.93, TLI = 0.92, RMR = 0.07, SRMR = 0.10.

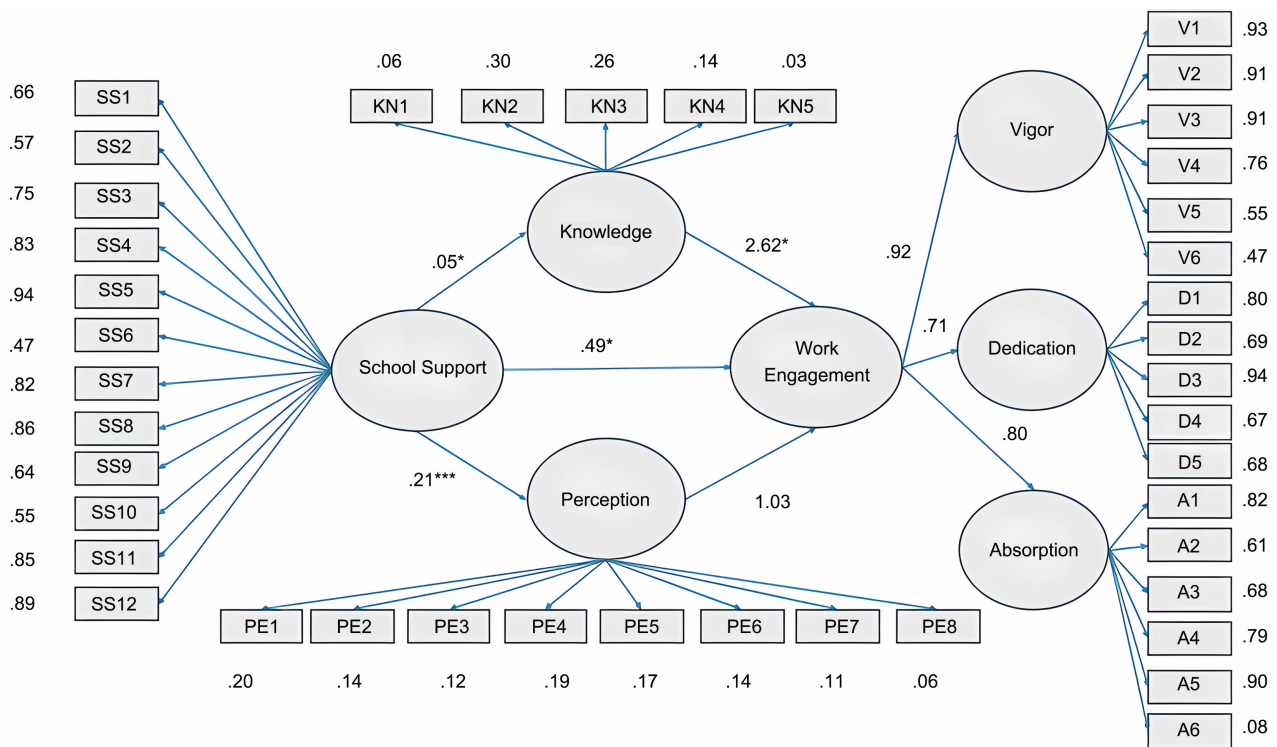
As illustrated in **Figure 1** and **Table 4**, multiple significant direct effects were found within the model. School support was found to be a significant positive predictor of teacher's knowledge of the school environment ( $\beta = 0.06, p = 0.011$ ), teachers' perception of the school environment is found to be a significant positive predictor of teachers' knowledge of the school environment ( $\beta = 0.21, p = 0.038$ ), and their overall work engagement ( $\beta = 0.49, p = 0.031$ ). However, neither the teacher's knowledge ( $\beta = 2.62, p = 0.171$ ) nor the teacher's perception of their school environment ( $\beta = 1.03, p = 0.095$ ) are significant predictors of work engagement. In terms of indirect effect, none of the indirect effects of school support

has on work engagement either through teacher's knowledge ( $\beta = 0.14, p = 0.124$ ) or perception of their school environment ( $\beta = 0.21, p = 0.073$ ).

In addition, **Figure 2** and **Table 4** show that SEM was used to examine the relationships between the independent variable (school support), the dependent variable (work engagement), and the mediator variable (teachers' knowledge of the school environment). WLSMV estimator was used as a robust model estimation method

**Table 4.** SEM regression direct effects table.

Variables	beta	SE	Z	p
<b>Model 1: Knowledge &amp; Perception as Separate Mediators</b>				
Paths Predicting Work Engagement				
Knowledge	2.62	1.91	1.37	0.171
Perception	1.03	0.62	1.67	0.095
School Support	0.49	0.23	2.15	0.031*
Paths Predicting Knowledge				
Knowledge	0.05	0.02	2.55	0.011*
Paths Predicting Perception				
School Support	0.21	0.04	5.47	<0.001***
<b>Model 2: Knowledge as a Mediator</b>				
Paths Predicting Work Engagement				
Knowledge	3.2	1.91	1.68	0.093
School Support	0.65	0.13	5.23	<0.001***
Paths Predicting Knowledge				
School Support	0.05	0.02	2.48	0.013*
<b>Model 3: Perception as a Mediator</b>				
Paths Predicting Work Engagement				
Perception	0.93	0.59	1.57	0.116
School Support	0.67	0.16	4.27	<0.001***
Paths Predicting Perception				
School Support	0.21	0.04	5.51	<0.001***
<b>Model 4: School Environment as a Mediator</b>				
Paths Predicting Work Engagement				
School Support	0.58	0.15	3.93	<0.001***
Environment	5.19	2.83	1.84	0.067
Paths Predicting School Environment				
School Support	0.05	0.02	2.54	0.011*



**Figure 1.** Structural model of school support, school environment, and work engagement.

due to the binary responses used in the model and multivariate non-normality found within the model. The model is shown to have a good fit:  $\chi^2 (519) = 1093.75, p < 0.001, CFI = 0.96, TLI = 0.96, RMR = 0.06, SRMR = 0.08$ . The results show there is a significant indirect effect school support ( $\beta = 0.15, p = 0.038$ ) has on work engagement through the teacher’s knowledge of the school environment.

Furthermore, **Figure 3** and **Table 4** illustrate that SEM was also used to examine the relationships between the independent variable (school support), dependent variable (work engagement), and mediator variable (teacher’s perception of the school environment). WLSMV estimator was used as a robust model estimation method due to the binary responses used in the model and multivariate non-normality found within the model. The model is shown to have a good fit:  $\chi^2 (808) = 2139.30, p < 0.001, CFI = 0.93, TLI = 0.92, RMR = 0.07, SRMR = 0.10$ . However, the results show there was no significant indirect effect school support ( $\beta = 0.20, p = 0.151$ ) has on work engagement through teacher’s perception of the school environment.

Lastly, **Figure 4** and **Table 4** reveal that SEM was used to examine the associations between the independent variable (school support), the dependent variable (work engagement), and the mediator variable (school environment). WLSMV estimator was used as a robust model estimation method due to the binary responses used in the model and multivariate non-normality found within the model. The model is shown to have a good fit:  $\chi^2 (807) = 2051.85, p < 0.001, CFI = 0.93, TLI = 0.93, RMR = 0.07, SRMR = 0.09$ . The results show there is a significant indirect effect of school support ( $\beta = 0.26, p = 0.015$ ) on work engagement through the school

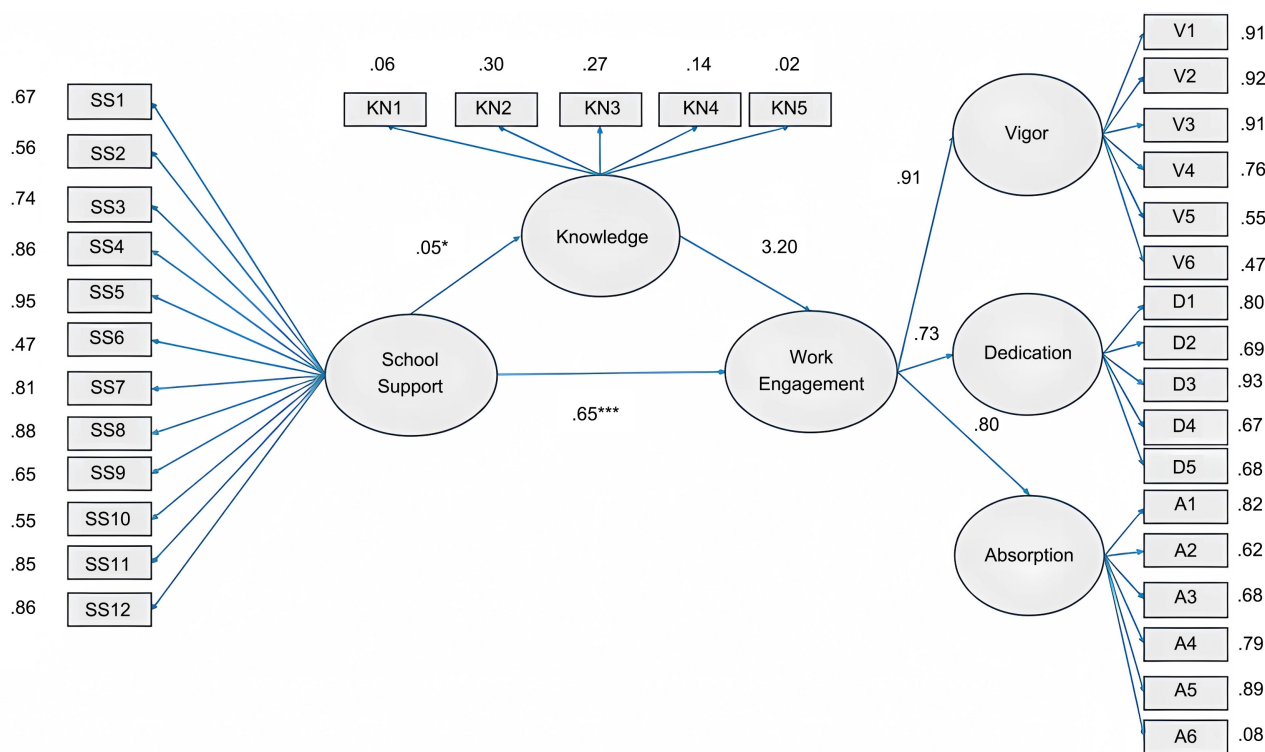


Figure 2. Structural model of school support, teacher’s knowledge of school environment, and work engagement.

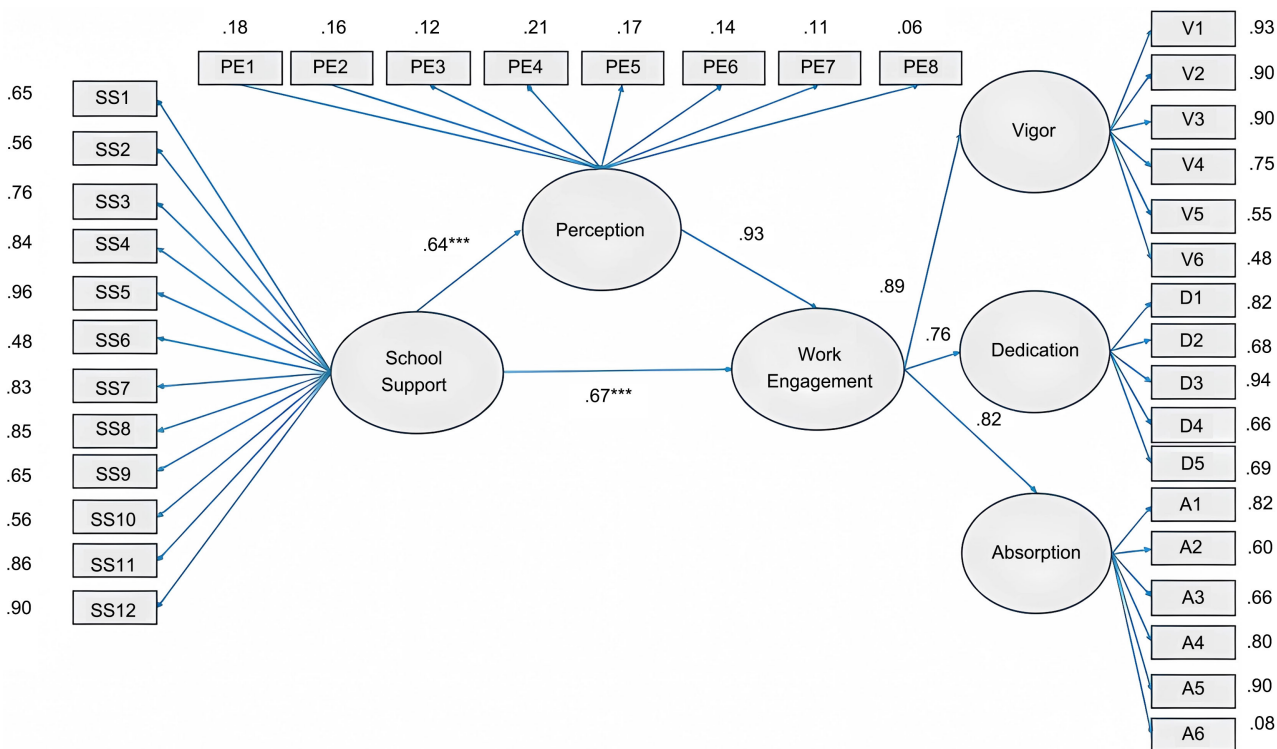


Figure 3. Structural model of school support, teacher’s perception of school environment, and work engagement.

environment. In general, Figure 5 reveals the indirect effects of the SEM models, demonstrating the mediating role of the school environment among teachers in

the relationship between school support and teachers' work engagement.

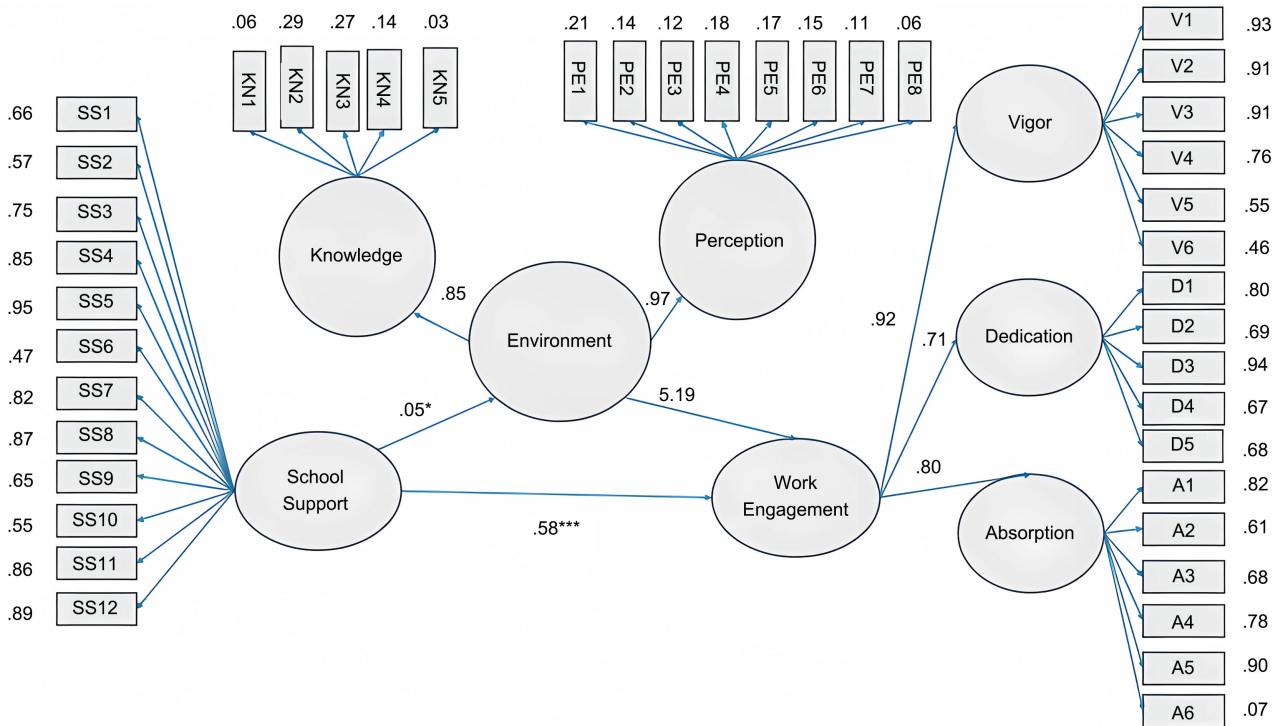
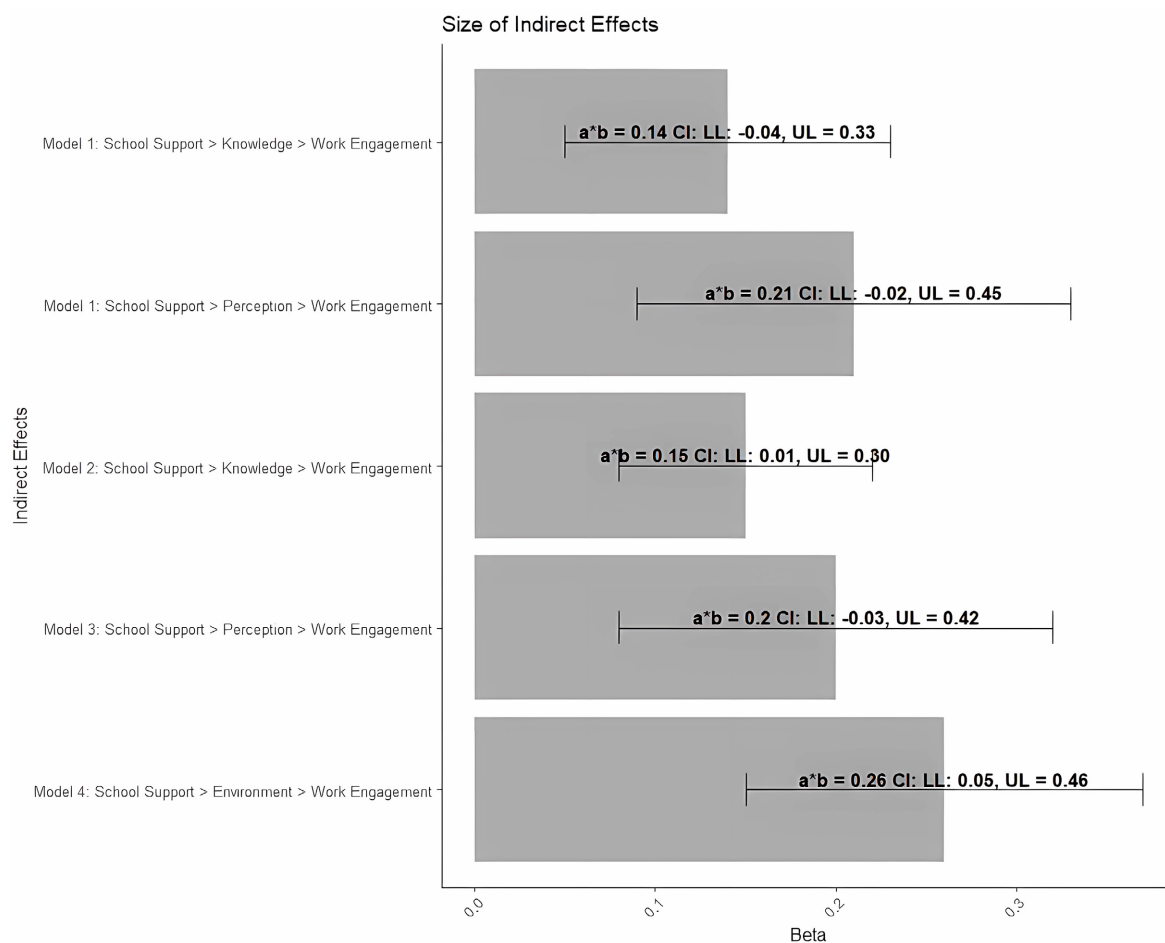


Figure 4. Structural model 2 of school support, school environment, and work engagement.

### 6. Discussion

Studies suggest that school support can promote job satisfaction, work engagement, turnover intention, well-being, and student performance (Gu, 2014; Johnson et al., 2012; Rothmann & Fouché, 2018; Skaalvik & Skaalvik, 2014; Syomwene, 2017; Wang & Zhou, 2022). Teachers who receive support from their principals and colleagues are more likely to have a positive perception of their school environment and a high level of work engagement (Köse, 2016; Lavy et al., 2024; Rothmann & Fouché, 2018). Thus, the present study examined how school support is associated with teachers' work engagement and positive perception of their school environment. In addition, the association between school environment (teachers' knowledge of the school environment and perception toward their school environment) and work engagement was examined. Moreover, the study examined the role of school environment perception and school environment knowledge in mediating the association between school support and teacher's work engagement.

In general, the results of the current study support some of the proposed hypotheses, as they indicate that teachers are more likely to report a higher level of work engagement when they receive proper support from their school. Please see Figure 5 and Table 4 for further information. These findings align with extensive studies investigating the consequences of organizational support in different fields, including public, profit, and nonprofit organizations. For instance, a survey of 512 South African secondary school teachers declared that supportive leadership was



**Figure 5.** Indirect effects of SEM models.

significantly related to work engagement and other positive consequences such as work-related basic psychological needs satisfaction and negative intention to leave their jobs (Rothmann & Fouché, 2018). Similarly, a study of 235 teachers and 47 principals demonstrated that school support was significantly related to positive workload-related well-being (Lavy et al., 2024). As a result, the current study concluded that school support to its teachers is a critical factor in increasing their level of engagement during the school year.

In contrast to some of the proposed hypotheses, which were based on a literature review, the study's results did not confirm that positive perception toward the school environment and knowledge of what a good school environment is expected to be are predictors of work engagement. These results are in contrast to the results of a study on 747 finished young managers, which demonstrated that organizational environment was a predictor of work engagement (Salminen et al., 2014). It also contrasts with a study of 2569 Norwegian teachers, which demonstrated that a positive school environment that supports teacher autonomy predicts a higher level of work engagement (Skaalvik & Skaalvik, 2014).

The school environment acts as a mediator in the relationship between school support and work engagement from the teachers' perspectives. This relationship

is divided into two subconstructs: one assesses teachers' perceptions of their school environment, while the other evaluates their knowledge about the school environment (Elmosaad, 2024). In addition, they have been treated separately and combined, which allows us to see each subconstruct influence on the association between school support and work engagement and shows the shared variance of the subconstruct's influence. In general, the school environment, which indicates shared variances of subconstructs, was found to mediate the association between school support and work engagement from teachers' perspectives. In other words, the results indicate that while school support significantly impacts teachers' perception and knowledge of the school environment and work engagement, the indirect effect varies. Conspicuously, school support significantly influences teachers' work engagement through the school environment in general, underscoring the significance of a positive school environment in promoting teachers' work engagement. These results align with similar studies to some extent. For example, a survey of 481 Korean teachers demonstrated that learning organization culture positively influences the association between work engagement and self-efficacy (Song et al., 2018).

Based on the above results and discussion, there is a need to acknowledge the role of school support in the school environment and teachers' work engagement. In addition, teachers' work engagement does not only benefit school daily work; it assumes to influence positively the environments they are working in, the people who work with them, and students. Since teachers deal with stakeholders from different backgrounds, there is a significant need to investigate what they perceive as support and to provide it to them.

### **6.1. Practical Implications**

In the Kingdom of Saudi Arabia, there are initiatives to develop teachers' competencies to make students ready for the workforce, which cannot be done without having school support and a positive school environment that allows teachers to have a high level of work engagement in order to be effective inside the school and classroom. In addition, Saudi Vision 2030 recommends providing support to teachers and enhancing the school environment as critical components of educational reform, which the Ministry of Education put at the top of its initiatives. The vision is aimed at educational reform to create a conducive learning environment by providing proper facilities, integrating technologies, and implementing effective policies and procedures. In addition, Vision 2030 concentrates on providing a professional development program for teachers to improve their skills and ensure they receive adequate support to perform their job optimally. The highlighted points align with proper school support. A positive school environment is expected to be observed by teachers, which is assumed to influence the overall quality of Saudi education and foster improvement within its school.

Based on the study's findings, school support to teachers is crucial for perceiving the school environment positively and predicting teachers' work engagement.

As a result, the Ministry of Education is encouraged to include teachers and principals in the decision-making regarding needed support in the school and classroom and related matters regarding the school environment. This can be done by pointing out representatives who work in the field daily from different regions in the Kingdom of Saudi Arabia. This will facilitate the ministry roles, provide suitable assistance to teachers and students, and open new horizons for innovation and overcoming challenges.

Furthermore, school principals must allow teachers to share needed support or any opinion regarding their school environment, which can be done by exposing principals to training programs and workshops that improve their collaboration strategies (Moller et al., 2001). Previous studies have highlighted the negative consequences of employees' silence as it predicts their disengagement. A survey of 40 employees concluded that they had been in situations where they decided not to share or raise issues with their leaders or supervisors to avoid being labeled negatively (Milliken et al., 2003). The National Center for School Evaluation and Excellence, one of the centers under the Education and Training Evaluation Commission in the Kingdom of Saudi Arabia, has started providing evaluation services to K-12 schools. The evaluation criteria include four domains: School Leadership, Teaching and Learning, Learning Outcomes, and School Environment. A supportive school and positive school environment will facilitate tackling the mentioned domains.

## 6.2. Limitations and Future Studies

When interpreting the findings of this research, several limitations should be considered. Firstly, the current study used a cross-sectional design, which prevents a longitudinal analysis of the relationships among the targeted variables. Future studies should adopt longitudinal study designs to distinguish between changes that happen and reduce the impact of bias. Secondly, This study relied solely on quantitative data, which may limit the ability to understand the context entirely. Future studies might use a mixed-methods design, as it opens the door to a deeper understanding of the issues and provides a comprehensive picture of the study's variables. Thirdly, even though the instrument of school environment was found to be reliable and valid in the Saudi population, upcoming research can utilize a measurement that has specific subconstructs related to the school environment. Fourthly, the number of participants can be perceived as a limitation of this study. Future research is expected to recruit more participants and teachers from other areas of Saudi Arabia. In addition, future studies are encouraged to recruit multiple informant approaches. Fifthly, the options for the school environment scale use the binary response format ("yes" or "no"), which may limit variability and capture of nuanced differences. Future research should consider using Likert-type scales to provide a more detailed assessment and improve internal consistency. Sixthly, the current study relied on self-reported school support, school environment, and work engagement data. Future work could benefit from more thoroughly

assessing both work engagement within the context of daily or weekly diary studies.

## 7. Conclusion

In conclusion, the current study is the first in the educational field to examine the mediation role of environment, including teachers' perception of school environment and their knowledge regarding school environment in the association between school support and work engagement. The results of this study confirm that school support enhances teachers' work engagement. Teachers who receive support from their school tend to have a positive perception of their school environment, higher knowledge of the school environment, and higher levels of work engagement. While the study found that teachers' perceptions and understanding of their school environment did not directly predict their work engagement, the school environment, in general, mediates the association between school support and work engagement from teachers' perceptions. These findings underscore the importance of a supportive school environment in promoting teachers' work engagement, which aligns with prior studies in various organizational contexts.

Practical implications highlight the need for the Ministry of Education's departments and educational offices to align with Vision 2030 initiatives in Saudi Arabia by focusing on supporting teachers and creating positive school environments. This involves providing adequate support and involving teachers and principals in decision-making processes. By doing so, the overall quality of education can be enhanced, and school improvement can be fostered. Furthermore, open communication and collaboration among teachers, decision-makers, and principals are expected to be encouraged as it will lead to innovative solutions, overcome challenges in the educational system, and assist in achieving expected goals.

## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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