



Perceived instructional leadership, organizational climate, and commitment: influences on need-supportive teaching in higher vocational colleges

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ABSTRACT

The problem and the aim of the study. This study examines the relationship between perceived instructional leadership and need-supportive teaching in higher vocational colleges in China. Additionally, it explores how teachers' perceptions of the organizational climate and their commitment to the college influence this relationship. *This study aims* to help improve the instructional leadership among leaders in vocational colleges and encourage teachers in these institutions to enhance their need-supportive teaching, thereby cultivating highly skilled technical professionals.

Research methods. Quantitative research methodology is employed in this study. A convenience sample of 850 vocational college teachers from Shandong Province, China, was selected and surveyed. Data analysis was conducted using SPSS for correlation analysis, and AMOS was utilized to establish the structural equation model for this research. Mediation effects of the model were examined through Bootstrap analysis. The research findings contribute to explaining the influence pathway of perceived instructional leadership on teachers' need-supportive teaching.

Results. Analyses conducted using the Bootstrap mediation structural equation modeling, the direct effect of perceived instructional leadership on need-supportive teaching is 0.234 ($p < .01$), with a 95% confidence interval (CI) of (0.098, 0.344). The effect of perceived instructional leadership on need-supportive teaching through perceived school organizational climate is 0.109 ($p < .01$), with a 95% CI of (0.070, 0.149). Furthermore, the effect through the teachers' organizational commitment is 0.219 ($p < .01$), with a 95% CI of (0.146, 0.329). Lastly, the path effect of perceived instructional leadership on need-supportive teaching, mediated by both perceived organizational climate and organizational commitment, is 0.023 ($p < .01$), a 95%CI of (0.007, 0.045), excluding zero in all intervals. The study indicates that perceived organizational climate and organizational commitment play a serial mediating role in the relationship between perceived instructional leadership and the need-supportive teaching.

Conclusion. This study examines the factors influencing need-supportive teaching among teachers. It was found that the level of perceived instructional leadership, the perceived school organizational climate, and the teachers' own organizational commitment all positively impact need-supportive teaching. The study suggests that school leaders can enhance their instructional leadership skills, cultivate a positive school organizational climate, and thereby advance the organizational commitment of teachers, which in turn can foster the development of teachers' need-supportive teaching practices. These findings aid in the improvement of school management and promote the advancement of teaching quality.

KEYWORDS

instructional leadership, need-supportive teaching, organizational commitment, organizational climate, higher vocational teachers

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INTRODUCTION

In October 2022, UNESCO published the "Transforming Technical and Vocational Education and Training for Successful and Just Transitions: UNESCO Strategy 2022-2029" (hereinafter referred to as "Strategy 2022-2029"), highlighting the critical role of technical and vocational education and training (TVET) in the context of current global transformations, particularly in the recovery and reconfiguration of education systems and labor markets [1]. In the same year, the State Council of China issued the "Opinions on Deepening the Reform of the Construction of a Modern Vocational Education System", which emphasized the need to deepen the structural reform of the supply side of vocational education, prioritize competence and quality, and abide by the principle of innovation. Additionally, it emphasized the importance of a people-centered approach. It is evident that improving the quality of vocational education and promoting the learning and development of students' professional technical skills have become an important field in vocational education teaching and research [2].

Need-supportive teaching refers to the process of facilitating of students' basic psychological needs [3]. Supporting students' needs mobilize their motivation, engagement, and well-being [4], aiding in the regulation of their behavior and social adaptation [5]. For higher vocational education, teachers are required to use need-supportive teaching to ensure the quality of teaching and promote learning by increasing student autonomy and motivation as well as establishing robust group relations during the teaching process [6].

However, majority of previous studies on need-supportive teaching have focused on the positive effects of need-supportive teaching practices on students' autonomy motivation and learning outcomes [7]. These studies have demonstrated that need-supportive teaching can improve student motivation [8], academic achievement [9; 10], well-being, and sense of belonging [11], and are effective in preventing student dropout [12]. However, less attention has been paid to the factors promoting the adoption of need-supportive teaching among teachers [13; 14]. Specifically, fewer studies have examined the relationship between leadership style and need-supportive teaching [15]. Research on need-supportive practices has focused primarily on autonomy support, paying less attention on the support for structure and involvement [16]. In terms of the study population, previous studies on need-supportive teaching have covered mainly the primary and secondary schools [17], and there are a few comprehensive studies on need-supportive teaching in higher education [18]. However, vocational education has type attributes in higher education, and teachers in vocational colleges are characterized by employment-oriented educational purposes, curriculum arrangements based on both theory and practice, weakly motivated educational targets, and a high proportion of the practical aspects of teaching and learning [19], which necessitate need-supportive teaching in vocational colleges as well [20].

Research has shown that leaders in higher education institutions may be significant predictors of various organizational outcomes [21], and the teaching quality is more influenced by the leadership of school administrators [22]. Education departments in several countries require school leaders to be instructional leaders [23]. Instructional leadership has been reported to significantly improve teachers' instructional style [24; 25], exhibiting a significant direct impact on the quality of need-supportive teaching [26].

Effective need-supportive teaching requires active support from the school environment as well as the teachers [27]. According to the social exchange theory, the exchange relationship is driven by both endogenous and exogenous variables [28]. In terms of external factors, the organizational climate is one of the most important factors affecting teachers' teaching quality in schools [27]. The principal possesses the power to create a positive organizational climate [29], which is pivotal to teachers' teaching improvement [30]. In addition, instructional leadership in schools promotes the creation of a supportive school organizational climate that motivates teachers to adopt need-supportive teaching [31].

Among the internal factors, teachers' organizational commitment plays a crucial role in improving teaching quality [32], and a strong belief in organizational goals and values affects individuals' willingness to mobilize their ability to achieve the organization's goals [33]. Teachers with strong

commitment in schools are more productive [34]. Multiple studies have shown that institutional leaders can positively influence teachers' organizational commitment [23]. Organizational commitment also mediates the role of leadership in need-supportive teaching [15].

Mastering need-supportive teaching is an arduous task [35], requiring external and internal conditions to be conducive for teachers to sustain growth improvement [36]. In addition, instructional leadership, a good school organizational climate, and teachers' organizational commitment promote need-supportive teaching [15]. Therefore, building on previous research, this study examines the effects of perceived instructional leadership on teachers' need-supportive teaching, and whether this relation is mediated by perceived organizational climate and teachers' organizational commitment. Furthermore, the study examines whether perceived instructional leadership affects need-supportive teaching by influencing the perceived organizational climate and organizational commitment of teachers.

LITERATURE REVIEW

Social Exchange Theory

According to social exchange theory, interpersonal relationships are essentially a form of social exchange. Subordinates are more likely to participate actively in work when they receive tolerance, support, and permission from their leaders or organizations in return [37]. Blau's social exchange structuralism is based on the principle of reciprocity, which suggests that a feedback loop exists in the interaction process, contributing to mutual benefits. This implies that individuals being benefited are also responsible for benefiting others [38]. In essence, when employees perceive their leaders as being concerned, appreciative, and affirming, they tend to develop a positive outlook toward their leaders, which manifests in their improved work performance. Social exchange structuralism is the reciprocal result of exchange behavior, which allows exchange parties to further appreciate, trust, and feel responsible for each other [37]. Bagozzi proposed two broad classes of forces or processes that drive exchange: endogenous and exogenous variables [28]. Endogenous variables include the characteristics, attitudes, personalities, and needs of the actors on both sides of the exchange, as well as the normative, ethical, and moral nature of action, and the use of power, reward, and punishment. Exogenous variables include social norms, legal restrictions, and environmental factors [28]. Organizational commitment stems from the interaction between internal factors and the organization, fostering emotional attachment toward the organization and resulting in employees' positive work attitude and behavior [39]. Organizational climate is a key external factor, and teachers' positive and rewarding behavior are influenced by their perception of a favorable organizational climate [40]. Therefore, based on social exchange theory, this study explores the influence of instructional leadership on teachers' need-supportive teaching under the mediation of perceived organizational climate and organizational commitment.

Need-supportive Teaching

Need-supportive teaching refers to an interpersonal style of teaching and learning. This strategy is used by teachers in the classroom to enhance the students' learning process, motivation, and development [35]. Based on self-determination theory, scholars have categorized need-supportive teaching into autonomy support, competence support (structural support), and relational support (involvement support) [41]. Autonomy-supportive instruction aims to provide students with choices, such as allowing them to select tasks that fascinate them or they consider important [42]. It also promotes relevance, for example by designing values for tasks, lessons, or behaviors [43], and emphasizing on respect, rather than criticism [42]. Teachers provide competence support to students can be provided clear, understandable, explicit, and detailed instructions and frameworks for the course; this can help teachers to guide student in activities where they are engaged, such as supervising their work or offering assistance when needed [44]. Students should be provided competence through supportive and encouraging means [45]. Additionally, they should be offered constructive feedback to help them gain control over valuable outcomes [44]. Catalan et al combined self-determination theory and achievement goal theory to evaluate need-supportive teaching,

dividing competence support into task support and self-support [46]. Task support aims to make students better versions of themselves, whereas self-support aims to make students better than their peers. This distinction is crucial for motivating both students and teachers [47]. Teachers can focus on improving students' learning skills or guide them to outperform their peers, leading to better outcomes [46]. Finally, in relationally supportive teaching, the aim is to fulfill students' needs for care and belongingness, as well as their desire to be cared for by others [48].

Perceived Instructional Leadership and Need-supportive Teaching

Perceived instructional leadership refers to teachers' perceptions of the processes used by school administrators to coordinate, control, monitor, and improve curriculum and teaching in their schools [49]. Instructional leadership is an educational leadership style in which school leaders pay attention to the curricular and teaching issues and participate in activities to improve teaching and learning in schools [50]. Previous studies have shown that school leaders can influence the need-supportive teaching [51; 52].

In addition, the leadership of school administrators has been linked to the provision of need-supportive teaching by teachers in the classroom [53]. According to some studies, teachers in the classrooms tend to emulate the style or control they learned from their instructional leaders [15; 54]. Additionally, instructional leaders have a significant impact on teachers' classroom teaching style [55], as well as their behaviors, beliefs, knowledge, practices, and competencies [56]. To enhance the quality of classroom instruction, strengthening the behavior, beliefs (including teacher efficacy and collective teacher efficacy), knowledge, practice, and competency of teachers is essential [57]. Research has shown that instructional leaders can improve teachers' need-supportive teaching styles by providing feedback, praise, encouragement, and support for various learning and teaching methods [58]. Instructional leaders can rationally allocate teaching jobs by empowering teachers to express their opinions on their work [59], providing timely feedback, recognizing teachers' contributions to teaching [15], and building trustworthy relationships with teachers to promote need-supportive teaching [31]. These studies indicate that perceived instructional leadership has a significant impact on teachers' need-supportive teaching. Therefore, this study proposes the following hypothesis:

H1: Perceived instructional leadership among vocational college teachers has a significant positive impact on need-supportive teaching.

Perceived Organizational Climate Mediates the Relation Between Instructional Leadership and Need-supportive Teaching

Perceived school organizational climate was defined by Johnson et al. as teachers' perception of the overall socio-psychological environment of their work and teaching processes [60]. This perception is based on various aspects such as shared vision, teachers' morale, norms and expectations for students, and empowerment.

In the educational context, leadership can create a supportive school organizational climate and positively influence teachers' teaching practices [61]. If school leaders assist teachers in creating a motivating organizational climate, promote them to explore various motivational strategies, and ensure optimal teaching in schools [62], then teachers tend to adopt need-supportive teaching to ensure classroom positivity and engagement. Subandi et al. highlighted that instructional leadership has a significant impact on the school's organizational climate, guiding it toward the positive direction and creating a favorable environment to enhance teachers' need-supportive teaching [29]. The mediation of school organizational climate influences the dissemination of support from instructional leaders and teachers to need-supportive classroom teaching. Therefore, this study proposes the following hypothesis:

H2: The perceived school organizational climate plays a mediating role in the impact of instructional leadership on need-supportive teaching.

Teachers' Organizational Commitment Mediates the Relation Between Instructional Leadership and Need-supportive Teaching

Organizational commitment refers to the level of involvement and desire of an individual to be a member in their organization. This includes loyalty and a willingness to dedicate maximum effort in the organization [63]. Individuals with high levels of commitment prioritize the organization over personal interests and strive toward the improvement of their organization [64].

A study showed that school leadership can enhance teachers' need-supportive teaching quality by strengthening their beliefs and commitment [31]. Additionally, Chang et al. observed that teachers perceiving greater support from their leaders exhibit increased emotional commitment to the school [65]. Therefore, the support or motivation received by teachers from superiors affects their teaching style in supporting students' needs. Reyes found that students taught by highly committed teachers exhibit outstanding performance and better outcomes overall [66]. Adams opined that leadership from school managers can trigger emotional commitment among teachers, which may either activate and enhance teacher-student interactions or inhibit and constrain them [15]. Therefore, teachers' organizational commitment serves as an intermediary factor between effective instructional leadership and need-supportive teaching. The instructional leadership fosters organizational commitment among teachers [67], which further promotes need-supportive teaching and students' learning. Consequently, this study proposes the third hypothesis:

H3: Teachers' organizational commitment plays a mediating role in the impacts of instructional leadership on need-supportive teaching.

The Chain Mediation Effects of Perceived Organizational Climate and Teachers' Organizational Commitment on Instructional Leadership and Need-supportive Teaching

A positive climate in schools promotes commitment among teachers and leads to improved academic performance among students [68]. Bantilan et al. demonstrated that teachers perceiving the organizational climate to be positive exhibit a higher degree of satisfaction with their profession, thereby displaying higher levels of organizational commitment [69]. De Clercq and Rius investigated the impact of perceived organizational climate on organizational commitment within the framework of social exchange theory, concluding that a significant positive correlation exists between perceived organizational climate and employee commitment, which in turn affects the employee's efforts at workplace [70]. A positive organizational climate for teachers enhances their pursuit of excellence, thereby promoting need-supportive teaching and student well-being [71]. Therefore, in this study, we also investigated the mediating role of perceived organizational climate and teacher organizational commitment in the relationship between instructional leadership and need-supportive teaching. Accordingly, we propose the following hypothesis:

H4: Perceived organizational climate and teachers' organizational commitment play a chain mediating role in the relationship between instructional leadership and need-supportive teaching.

METHODOLOGY

Research Framework

We established a framework to explore how the impact of instructional leadership on need-supportive teaching style is mediated by teachers' perceived organizational climate and organizational commitment. Figure 1 illustrates how instructional leadership enhances teachers' perceived organizational climate and organizational commitment, further enhancing the quality of need-supportive teaching.

Research Object

We selected teachers from higher vocational colleges in Shandong Province as the research objects. In 2020, Shandong Province issued the Opinions of the People's Government of Shandong Province on Promoting the Improvement of Quality, Training and Excellence in the Construction of

Innovative Development Heights of Vocational Education in the whole Province, striving to create a model and benchmark for the modernization of vocational education. In 2020, the focus was placed on building an exemplary framework of modern vocational education in Shandong Province. In 2022, vocational colleges in Shandong province won 50 awards in the category of National Vocational Education Teaching Achievement Awards, securing the first rank in the country [72]. Its leadership and practices in vocational education teaching are relatively mature. Considering it has a certain rationality and representativeness, we selected Shandong Province for investigating vocational college teachers' teaching. Through purposive sampling, we selected teachers from eight vocational colleges in Shandong Province as research subjects.

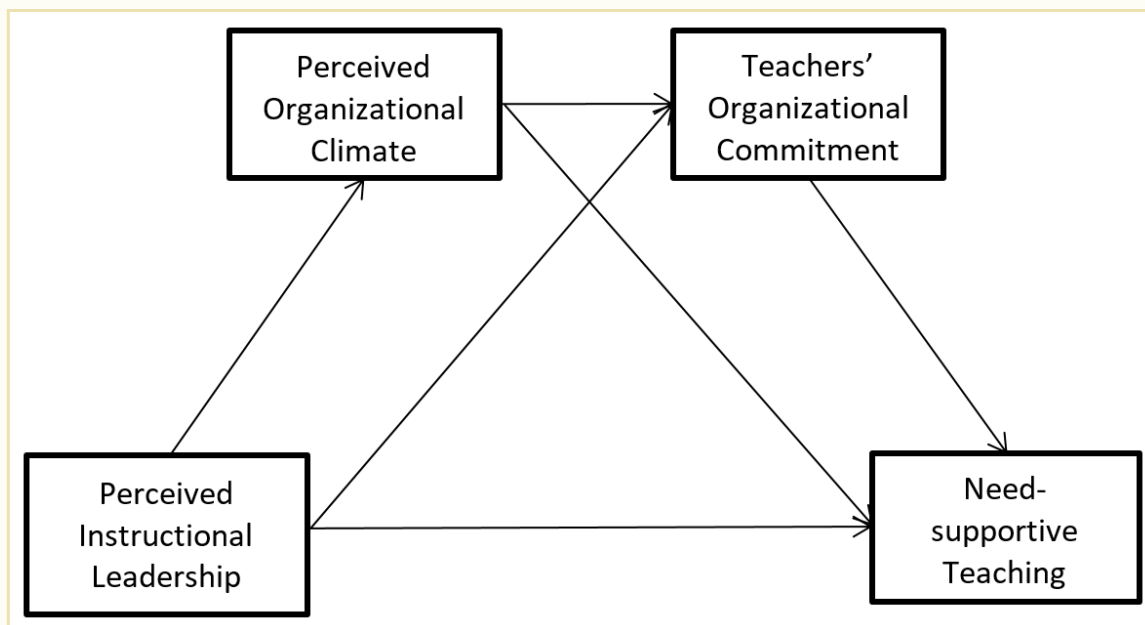


Figure 1 Research Framework

Research Tools

The questionnaire survey was employed as the main research method for collecting data. The principal instructional management rating scale, need-supportive teaching styles scale, school-level environment questionnaire, and organizational commitment questionnaire were the main tools used in the survey, and their description is as follows:

Principal Instructional Management Rating Scale

To determine the perceived instructional leadership, we used the shortened version of the principal instructional management rating scale (PIMRS), developed by Hallinger and Wang [73]. This scale comprises 22 items, encompassing three dimensions, namely defining school mission, managing instructional programs, and creating a teaching atmosphere. A 5-point Likert scale was used, with responses ranging from "strongly disagree" to "strongly agree." The higher the scores, the higher were the levels of perceived teaching-oriented leadership. In this study, the overall Cronbach's alpha coefficient for the PIMRS was 0.939.

Need-Supportive Teaching Style Scale

The study examined needs-supportive teaching by using the need-supportive teaching style scale (NSTSS), developed by Catalán et al. [46]. This scale comprises 15 items, covering four dimensions: task support, self-support, autonomy support, and relationship support. A 5-point Likert scale was used, with responses ranging from "strongly disagree" to "strongly agree." Higher scores indicated that teachers perceive themselves as more need-supportive. The overall Cronbach's alpha coefficient for the NSTSS in this study was 0.887.

School-Level Environment Questionnaire

The organizational climate was assessed using the modified version of the school-level environment questionnaire (SLEQ), developed by Rentoul and Fraser [74] and later revised by Johnson et al.[60]. It is a 21-item scale, encompassing five dimensions: collaboration, student relations, school resources, participation in decision-making, and pedagogical innovation. A 7-point Likert scale was used for scoring, with responses ranging from "strongly disagree" to "strongly agree." The higher the scores, the better was the perceived school organizational climate. The overall Cronbach's alpha coefficient for the SLEQ in this study was 0.935.

Organizational Commitment Questionnaire

The teacher organizational commitment was measured using the organizational commitment questionnaire, developed by Meyer and Allen in 1991 [75]. This scale comprises 18 items, covering three dimensions: affective commitment, continuance commitment, and normative commitment. A 7-point Likert scale is used for scoring, with responses ranging from "strongly disagree" to "strongly agree." Higher scores indicated higher levels of teacher organizational commitment. In this study, the overall Cronbach's alpha coefficient for the scale was 0.892.

Statistical Analysis Method

SPSS 22.0 was used to analyze the collected data. Descriptive statistics and correlation analysis were performed for analysis. Structural equation modeling (SEM) with AMOS 17.0 was employed for a confirmatory factor analysis.

RESULTS

Description of Research Objects

A total of 850 formal questionnaires were distributed, and 829 of these were returned. Among the returned questionnaires, 803 were considered valid, resulting in an effective response rate of 96.86%. Of the total, 405 (50.4%) respondents were men and 398 (49.6%) were women. 261 (32.5%) had a bachelor's degree, 429 (53.4%) possessed master's degree, and 113 (14.1%) had a doctoral degree. 282 (35.1%) of the respondents had 0-5 years of experience, 321 (40.0%) had 6-10 years of experience, 123 (15.3%) had 11-20 years of experience, and 77 (9.6%) had ≥ 21 years of experience.

Variable Descriptive Statistics and Correlation Analysis

Table 1 presents the mean (M) and standard deviation (SD) of each variable. Perceived instructional leadership (M = 3.302, SD = 0.780) and need-supportive teaching (M = 3.311, SD = 0.744), measured on a 5-point scale, were at a medium-to-high level; organizational commitment (M = 4.515, SD = 1.135) and perceived school organizational climate (M = 4.016, SD = 1.135), measured on a 7-point scale, were also at a medium-to-high level. Significant positive correlations were noted among all variables, with correlation coefficients ranging from 0.317 to 0.523, all less than 0.8, which indicated the absence of severe collinearity issues.

Table 1

Variable Descriptive Statistics and Correlation Analysis

Variables	M	SD	IL	OC	SC	NS
Perceived Instructional Leadership (IL)	3.302	0.780	1			
Teachers' Organizational Commitment (OC)	4.515	1.135	0.496***	1		
Perceived Organizational Climate (SC)	4.016	1.135	0.387***	0.317***	1	
Need-supportive Teaching (NS)	3.311	0.744	0.523***	0.515***	0.445***	1

Note. *** $p < 0.001$

Model Fit and Convergence Validity

The hypotheses were tested using SEM in AMOS 21.0. Referring to the study by Anderson and Gerbing [76], we first performed a confirmatory factor analysis to examine the measurement model. Model fit was evaluated on the basis of absolute fit, incremental fit, and parsimony fit, as suggested by Hair et al [77]. The criteria for absolute fit were set according to Doll et al [78], as follows: $\chi^2/df < 3$, RMSEA $< .08$, and GFI $> .9$. Hu and Bentler [79] recommended that SRMR should be less than .05. In our study, the NFI, NNFI, IFI, CFI, and RFI values were .977, .995, .996, .996, and .971, respectively, all meeting the criteria proposed by UIIman who suggested that incremental fit indices should exceed .9 [80]. The parsimony fit indices PNFI and PGFI were .791 and .696, respectively, both greater than .05, indicating good model fit. Table 2 shows the overall model fit indices, all of which meet the standard for model fit, thereby allowing for path analysis.

Table 2

Model fit statistics

Overall fit	items	fit indices	results data
Absolute fit	CMIN/DF	<3.000	1.190
	RMSEA	<0.080	0.015
	SRMR	<0.050	0.028
	GFI	>0.900	0.983
	AGFI	>0.900	0.976
Incremental fit	NFI	>0.900	0.977
	NNFI	>0.900	0.995
	IFI	>0.900	0.996
	CFI	>0.900	0.996
	RFI	>0.900	0.971
Parsimony fit	PNFI	>0.050	0.791
	PGFI	>0.050	0.696

The estimated error variances of the model were all non-negative and ranged from 0.939 to 1.085. The standardized regression weights were all <1 , and the standard errors ranged from 0.048 to 0.078, which are not excessively large, thereby satisfying the criteria for testing the violation of estimates (Table 3). For a good convergence validity, the standardized factor loadings (SFLs) of the observed variables should be >0.5 [77], and the t values should be significant. In this study, the numerical values met the standard, indicating good convergence validity of the model.

Table 3

Test for convergent validity

Measured variables	Estimates (B)	S.E.	C.R. (t)	SFL (β)
ILC<---IL	1.000			0.793
ILB<---IL	1.011***	0.048	20.954	0.787
ILA<---IL	0.985***	0.050	19.633	0.727
SCA<---SC	1.000			0.722
SCB<---SC	1.022***	0.052	19.762	0.760
SCC<---SC	0.983***	0.051	19.218	0.737
SCD<---SC	1.001***	0.052	19.221	0.737
SCE<---SC	0.990***	0.050	19.599	0.753
OCA<---OC	1.000			0.637

OCB<---OC	0.939***	0.071	13.307	0.634
OCC<---OC	1.055***	0.075	14.030	0.700
NSA<---NS	1.000			0.640
NSB<---NS	1.096***	0.078	14.015	0.631
NSC<---NS	1.085***	0.075	14.560	0.666
NSD<---NS	0.998***	0.075	13.274	0.587

Note. *** $p < 0.001$

Overall model path analysis

To test the research hypotheses, this study examined the correlations among perceived instructional leadership, organizational commitment, perceived school organizational climate, and need-supportive teaching through path analysis. As shown in Table 4, perceived instructional leadership had a positive impact on need-supportive teaching ($\beta = 0.271^{***}$, $t = 4.481$), thus supporting H1. Additionally, perceived instructional leadership was found to positively affect organizational commitment ($\beta = 0.592^{***}$, $t = 10.293$). Organizational commitment positively affected need-supportive teaching ($\beta = 0.429^{***}$, $t = 6.393$). Perceived instructional leadership had a positive impact on perceived school organizational climate ($\beta = 0.467^{***}$, $t = 10.566$). Perceived school organizational climate positively affected need-supportive teaching ($\beta = 0.269^{***}$, $t = 6.094$) and organizational commitment ($\beta = 0.133^{**}$, $t = 2.819$). The model paths are illustrated in Figure 2.

Table 4

Model path

Measured variables	Estimates (B)	S.E.	C.R. (t)	SFL (β)
SC<---IL	0.698***	0.066	10.566	0.467
OC<---SC	0.117**	0.042	2.819	0.133
OC<---IL	0.778***	0.076	10.293	0.592
NS<---SC	0.156***	0.026	6.094	0.269
NS<---OC	0.282***	0.044	6.393	0.429
NS<---IL	0.234***	0.052	4.481	0.271

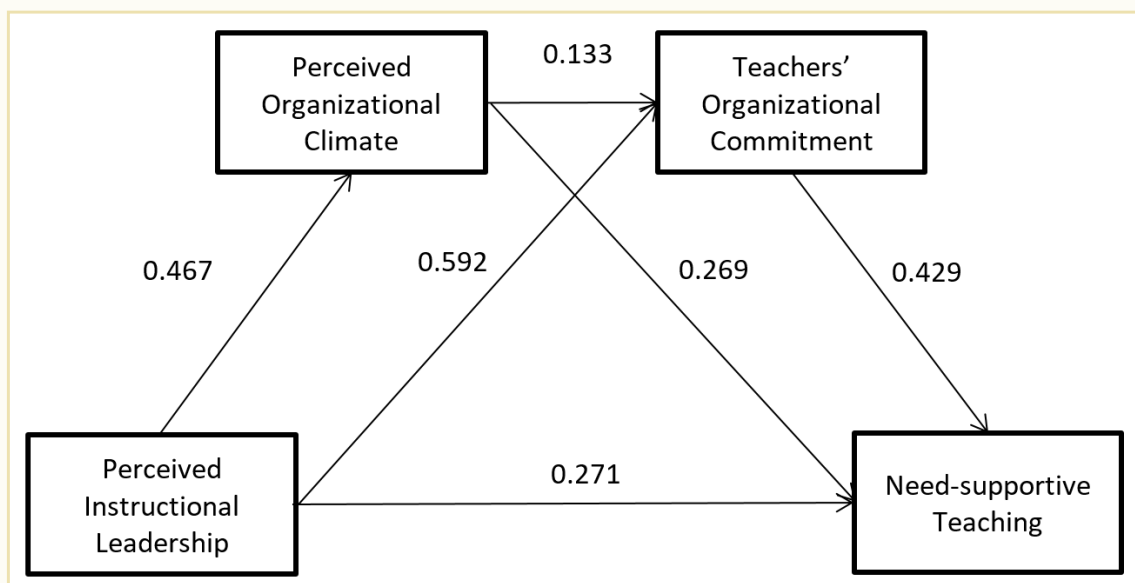


Figure 2 Roadmap of the Mediation Model

Bootstrap mediation effect test

This study conducted an indirect effect analysis based on the standard of Bootstrap mediation SEM. Referring to the description by Diccio and Romano [81], the number of Bootstrap samples was set to 2000, with a 95% confidence level. The results of the analysis are presented in Table 5, indicating the total indirect effect between perceived school organizational climate and organizational commitment of 0.351. This result indicated that perceived school organizational climate and organizational commitment had a significant mediating role in the relationship between perceived instructional leadership and need-supportive teaching.

Table 5

Mediation Effect Bootstrap Test Analysis

Path	Effect	SE	95% LLCI	95% ULCI	p
Direct Effects					
IL-->NS	0.234	0.062	0.098	0.344	0.003
Indirect Effects					
IL-->SC-->NS	0.109	0.020	0.070	0.149	0.002
IL-->OC-->NS	0.219	0.045	0.146	0.329	0.001
IL-->SC-->OC-->NS	0.023	0.010	0.007	0.045	0.009
TOTAL	0.351	0.050	0.267	0.468	0.001

In the indirect effects, first, the effect of perceived instructional leadership on need-supportive teaching through perceived school organizational climate was found to be 0.109 ($p < .01$), with a 95% confidence interval (CI) of (0.070, 0.149). As the CI does not include 0, perceived school organizational climate was confirmed as a mediator between perceived instructional leadership and need-supportive teaching, thereby validating H2. Second, the influence of perceived instructional leadership on need-supportive teaching through organizational commitment was determined to be 0.219 ($p < .01$), with a 95% CI of (0.146, 0.329). Because the interval does not include 0, we inferred that organizational commitment mediates the relationship between perceived instructional leadership and need-supportive teaching, thereby validating H3. Lastly, the combined effect of perceived school organizational climate and organizational commitment in mediating the influence of perceived instructional leadership on need-supportive teaching was found to be 0.023 ($p < .01$), with a 95% CI of (0.007, 0.045), excluding 0. This result suggested a chain-mediated effect of perceived school organizational climate and organizational commitment in the relation between perceived instructional leadership and need-supportive teaching, thus validating the hypothesis.

The direct effect path value was 0.234, with a 95% CI of (0.098, 0.344), excluding 0, which confirmed that the perceived school organizational climate and organizational commitment have a partial mediating effect on the relationship between perceived instructional leadership and the need-supportive teaching style.

DISCUSSION

Under the vocational college settings, the adoption of need-supportive teaching practices by teachers is affected by their perceived instructional leadership, perceived school organizational climate, and organizational commitment influence. Therefore, this study examined the relationships among these four variables and proposes a structural model. Our findings indicate that perceived instructional leadership has a significant positive impact on teachers' need-supportive teaching. Similarly, perceived school organizational climate and organizational commitment were found to have significant positive effects on teachers' need-supportive teaching. Furthermore, perceived

school organizational climate and organizational commitment were identified to partially mediate the relationship between perceived instructional leadership and the need-supportive teaching style.

The results of this study indicate that the perception of instructional leadership among teachers in vocational colleges in Shandong Province has a significant positive impact on their willingness to adopt need-supportive teaching styles, consistent with the findings of previous studies [62; 58]. According to social exchange theory, employees' attitudes towards their leaders are influenced by their perceptions of the leader's behavior in the work environment [82]. When employees perceive good leadership, they tend to develop a positive attitude toward work and a greater sense of responsibility; they may even go above and beyond their job requirements [83]. Instructional leaders can encourage teachers to improve classroom teaching by supervising and supporting their teaching practice, participating in teaching reform, demonstrating their roles, and promoting a positive teaching atmosphere [84]. This suggests that teachers perceiving instructional leadership and receiving adequate support and encouragement, in terms of resources, professional development, and instructional guidance, are more willing to try new teaching methods and strategies, eventually adopting need-supportive teaching.

Furthermore, this study found that organizational commitment directly influences teachers' willingness to adopt need-supportive teaching styles, in addition to partially mediating the relation between perceived instructional leadership and need-supportive teaching styles. This finding is consistent with those of previous studies [15; 31], suggesting that instructional leadership positively and significantly affects teachers' instructional performance by enhancing their organizational commitment [85]. The interaction between instructional leaders and teachers can change teachers' behaviors, enhancing their abilities and work commitments, and motivating them to dedicate higher-quality teaching efforts [86]. Teachers' work commitments are also related to the instructional leadership abilities of managers [85], and with effective leadership, managers can significantly contribute to enhancing teachers' organizational commitment. Leaders influence teachers' instructional styles by enhancing their organizational commitment, including the extent to which they prioritize the development of students' autonomy, competencies, and relationships. Teachers with high levels of organizational commitment may exhibit higher motivation to create a supportive and engaging learning environment to cater to individual students' needs and foster the development of their autonomy, competencies, and relationships [15].

Lastly, the results of this study highlight that teachers' perceptions of school organizational climate partially mediate the relationship between perceived instructional leadership and need-supportive teaching. Instructional leadership places teaching research at the forefront of management [26], and the support it provides for teaching creates a positive organizational climate for need-supportive teaching, further affecting teachers' classroom instruction style and performance. In summary, perceived instructional leadership establishes vision goals [87], provides teaching guidance [88], and creates a positive teaching atmosphere [89]. By fostering a positive school organizational climate, it not only enhances teachers' need-supportive teaching in the classroom but also strengthens their organizational commitment.

CONCLUSIONS

This study revealed the mediating role of perceived school organizational climate and organizational commitment, underscoring the pivotal role of instructional leadership in promoting the adoption of need-supportive teaching by teachers in vocational colleges. The study presents three key findings. Perceived instructional leadership has a significant positive impact on need-supportive teaching. Perceived school organizational climate serves as a partial mediator of the relationship between perceived instructional leadership and need-supportive teaching. Organizational commitment partially mediates the relationship between perceived instructional leadership and need-supportive teaching. Perceived school organizational climate and organizational commitment have a chain mediation effect on the relationship between the perceived instructional leadership and need-supportive teaching quality.

RECOMMENDATIONS

Managers in vocational colleges should be trained in instructional leadership to enhance their abilities in school mission, teaching monitoring, and creating a conducive teaching atmosphere. This will help teachers understand the development goals and directions of the college, guide them for their professional development, and encourage them to innovate and reform their teaching practices.

Additionally, vocational colleges can create professional learning communities to promote collaboration among teachers. Furthermore, through collaborations with enterprises and the integration of digital resources, teachers' technological and teaching skills can be enhanced. A supportive environment fosters teachers' curiosity, creativity, and exploration interests, thereby creating a conducive teaching atmosphere.

Lastly, efforts should be made to help teachers enhance their organizational commitment by ensuring that their values and sense of mission align with the college's development goals. Establishing recognition systems for teachers' achievements, such as service dedication, professional achievements, or teaching innovations, can also be effective in enhancing their commitment. Moreover, teachers can be empowered to make independent decisions and take control of their work by providing them autonomy and flexibility in teaching and decision-making. By encouraging innovation and experimentation in teaching practices, a sense of belonging toward the organization can be cultivated among teachers.

REFERENCES

1. UNESCO: Transforming technical and vocational education and training for successful and just transitions: UNESCO strategy 2022-2029. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000383360> (accessed 25 October 2022)
2. McGrath, S., Yamada, S. Skills for development and vocational education and training: Current and emergent trends. *International Journal of Educational Development*, 2023, vol. 102, 102853. DOI: 10.1016/j.ijedudev.2023.102853
3. Deci, E. L., Ryan, R. M. Optimizing students' motivation in the era of testing and pressure: A self-determination theory perspective. In W. C. Liu, J. C. K. Wang & R. M. Ryan (Eds.), *Building Autonomous Learners*. Springer Singapore Publ., 2016. 9–29 p. https://doi.org/10.1007/978-981-287-630-0_2
4. Ryan, R. M., Deci, E. L. Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 2020, vol. 61, 101860. DOI: 10.1016/j.cedpsych.2020.101860
5. Cheon, S. H., Reeve, J., Vansteenkiste, M. When teachers learn how to provide classroom structure in an autonomy-supportive way: Benefits to teachers and their students. *Teaching and Teacher Education*, 2020, vol. 90, 103004. DOI: 10.1016/j.tate.2019.103004
6. Yasué, M., Jenó, L. M., & Langdon, J. L. Are autonomously motivated university instructors more autonomy-supportive teachers? *International Journal for the Scholarship of Teaching and Learning*, 2019, vol. 13, no. 2, pp. 5. <https://eric.ed.gov/?id=EJ1218289>
7. Bureau, J. S., Howard, J. L., Chong, J. X., Guay, F. Pathways to student motivation: A meta-analysis of antecedents of autonomous and controlled motivations. *Review of Educational Research*, 2022, vol. 92, no. 1, pp. 46-72. DOI: 10.3102/00346543211042426.
8. Kiemer, K., Gröschner, A., Kunter, M., Seidel, T. Instructional and motivational classroom discourse and their relationship with teacher autonomy and competence support—findings from teacher professional development. *European Journal of Psychology of Education*, 2018, vol. 33, pp. 377-402. DOI: 10.1007/s10212-016-0324-7
9. Hornstra, L., Stroet, K., van Eijden, E., Goudsblom, J., Roskamp, C. Teacher expectation effects on need-supportive teaching, student motivation, and engagement: a self-determination perspective. *Educational Research and Evaluation*, 2018, vol. 24, no. 3-5, pp. 324-345. DOI: 10.1080/13803611.2018.1550841
10. Kurdi, V., Archambault, I., Briere, F. N., Turgeon, L. Need-supportive teaching practices and student-perceived need fulfillment in low socioeconomic status elementary schools: The moderating effect of anxiety and academic achievement. *Learning and Individual Differences*, 2018, vol. 65, pp. 218-229. DOI: 10.1016/j.lindif.2018.06.002
11. Wang, Y., King, R. B., Wang, F., Leung, S. O. Need-supportive teaching is positively associated with students' well-being: A cross-cultural study. *Learning and Individual Differences*, 2021, vol. 92, 102051. DOI: 10.1016/j.lindif.2021.102051
12. Leenknecht, M. J., Wijnia, L., Loyens, S. M., Rikers, R. M. J. P. Need-supportive teaching in higher education:

- Configurations of autonomy support, structure, and involvement. *Teaching and Teacher Education*, 2017, vol. 68, pp. 134-142. DOI: 10.1016/j.tate.2017.08.020
13. Pelletier, L.G., Rocchi, M. Teachers' Motivation in the Classroom. In: Liu, W., Wang, J., Ryan, R. (eds) *Building Autonomous Learners*. Springer, Singapore. 2016. 107-127 p. DOI: 10.1007/978-981-287-630-0_6
14. Ryan, R. M., Deci, E. L. Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 2020, vol. 61, 101860. DOI: 10.1016/j.cedpsych.2020.101860
15. Adams, C. M. Principal-teacher conversation as a pathway to a need-supportive instructional climate. *Leadership and Policy in Schools*, 2023, vol. 22, no. 2, pp. 299-313. DOI: 10.1080/15700763.2021.1933061
16. Sarmah, P., Van den Broeck, A., Schreurs, B., Proost, K., Germeyns, F. Autonomy supportive and controlling leadership as antecedents of work design and employee well-being. *BRQ Business Research Quarterly*, 2022, vol. 25, no. 1, pp. 44-61. DOI: 10.1177/23409444211054
17. Stroet, K., Opdenakker, M. C., Minnaert, A. Effects of need supportive teaching on early adolescents' motivation and engagement: A review of the literature. *Educational research review*, 2013, vol. 9, pp. 65-87. DOI: 10.1016/j.edurev.2012.11.003
18. González, A., Conde, A., Díaz, P., García, M., Ricoy, C. Instructors' teaching styles: Relation with competences, self-efficacy, and commitment in pre-service teachers. *Higher Education*, 2018, vol. 75, pp. 625-642. DOI: 10.1007/s10734-017-0160-y
19. Shao, Jiandong. Vocational teachers' leadership: connotation, value and development path. *Jiangsu Higher Education*, 2018, vol. 10, pp. 72-76. DOI: 10.13236/j.cnki.jshe.2018.10.014.
20. Tapani, A., Salonen, A. O. Identifying teachers' competencies in Finnish vocational education. *International Journal for Research in Vocational Education and Training*, 2019, vol. 6, no. 3. pp. 243-260. DOI: 10.13152/IJRJET.6.3.3
21. Khan, M. A., Ismail, F. B., Hussain, A., Alghazali, B. The interplay of leadership styles, innovative work behavior, organizational culture, and organizational citizenship behavior. *Sage Open*, 2020, vol. 10, no. 1. DOI: 10.1177/2158244019898264
22. Yalçinkaya, S., Dağlı, G., Altınay, F., Altınay, Z., Kalkan, Ü. The effect of leadership styles and initiative behaviors of school principals on teacher motivation. *Sustainability*, 2021, vol. 13, no. 5, 2711. DOI: 10.3390/su13052711
23. Hallinger, P., Hosseingholizadeh, R., Hashemi, N., Kouhsari, M. Do beliefs make a difference? Exploring how principal self-efficacy and instructional leadership impact teacher efficacy and commitment in Iran. *Educational Management Administration & Leadership*, 2018, vol. 46, no. 5, pp. 800-819. DOI: 10.1177/1741143217700283
24. Goddard, Y. L., Goddard, R. D., Bailes, L. P., Nichols, R. From school leadership to differentiated instruction: A pathway to student learning in schools. *The Elementary School Journal*, 2019, vol. 120, no. 2, pp. 197-219. DOI: 10.1086/705827
25. Hallinger, P., Gümüş, S., Bellibaş, M. Ş. 'Are principals instructional leaders yet?' A science map of the knowledge base on instructional leadership, 1940–2018. *Scientometrics*, 2020, vol. 122, no. 3, pp. 1629-1650. DOI: 10.1007/s11192-020-03360-5
26. Bellibaş, M. Ş., Polatcan, M., Kılınç, A. Ç. Linking instructional leadership to teacher practices: The mediating effect of shared practice and agency in learning effectiveness. *Educational management administration & leadership*, 2022, vol. 50, no. 5, pp. 812-831. DOI: 10.1177/1741143220945706
27. Safrul, S. The Influence of Communication, Organizational Climate and Transformational Leadership Style of The Principal on Teacher Performance. *AL-ISHLAH: Jurnal Pendidikan*, 2022, vol. 14, no. 3, pp. 3659-3666. DOI: 10.35445/alishlah.v14i3.1317
28. Bagozzi, R. P. Marketing as an Organized Behavioral System of Exchange: A comprehensive and analytic structure for interpreting behavior in marketing relationships. *Journal of marketing*, 1974, vol. 38, no. 4, pp. 77-81. DOI: 10.1177/002224297403800414
29. Subandi, C., Mispani, A. W. The Effect Of Principal's Leadership Style, School Climate Towards Teachers' Performance Towards School Effectiveness. *Journal of Positive School Psychology*, 2022, vol. 6, no. 6, pp. 3831-3842. <https://mail.journalppw.com/index.php/jpsp/article/view/8006/5213>
30. Dan, Y., Ye, Y. The relationship between teachers' perception towards school climate and their decision-making styles at a primary school in Anning District, Lanzhou City, China. *Scholar: Human Sciences*, 2020, vol. 12, no. 1, pp. 194-194. <http://www.assumptionjournal.au.edu/index.php/Scholar/article/view/3699>
31. Haw, J. Y., King, R. B. Perceived need-supportive leadership, perceived need-supportive teaching, and student engagement: A self-determination perspective. *Social Psychology of Education*, 2023, vol. 26, no. 5, pp. 1289-1319. DOI: 10.1007/s11218-023-09790-2
32. Napitupulu, B., Sudarno, S., Junaedi, A. T. Budget realization as a management control tool for company performance at PT. PELABUHAN INDONESIA I (PERSERO) PEKANBARU BRANCH. *Journal of Applied Business and Technology*, 2021, vol. 2, no. 3, pp. 243-250. DOI: 10.35145/jabt.v2i3.81
33. Hanaysha, J. Examining the effects of employee empowerment, teamwork, and employee training on organizational commitment. *Procedia – Social and Behavioral Sciences*, 2016, vol. 229, pp. 298-306. DOI: 10.1016/j.sbspro.2016.07.140
34. Mailool, J., Kartowagiran, B., Retnowati, T. H., Wening, S., Putranta, H. The Effects of Principal's Decision-Making, Organizational Commitment and School Climate on Teacher Performance in Vocational High School Based on Teacher Perceptions. *European Journal of Educational Research*, 2020, vol. 9, no. 4, pp. 1675-1687. DOI: 10.12973/eu-jer.9.4.1675

35. Reeve, J., Halusic, M. How K-12 teachers can put self-determination theory principles into practice. *Theory and Research in Education*, 2009, vol. 7, no. 2, pp. 145-154. DOI: 10.1177/1477878509104319
36. Pelletier, L. G., Sharp, E. C. Administrative pressures and teachers' interpersonal behaviour in the classroom. *Theory and research in education*, 2009, vol. 7, no. 2, pp. 174-183. DOI: 10.1177/1477878509104322
37. Blau, P. Exchange and power in social life. New York, Routledge Publ., 2017. 372 p. (In USA)
38. Sukmayanti, N. K., Sintaasih, D. K. The effect of perceived organizational support and psychological empowerment on job performance with organizational citizenship behavior as mediation. *IOSR Journal of Business and Management*, 2018, vol. 20, no. 5, pp. 01-08. DOI: 10.9790/487X-20050340108
39. Ahmed, A., Khuwaja, F. M., Brohi, N. A., Othman, I., Bin, L. Organizational factors and organizational performance: A resource-based view and social exchange theory viewpoint. *International Journal of Academic Research in Business and Social Sciences*, 2018, vol. 8, no. 3, pp. 579-599. DOI: 10.6007/IJARBS/v8-i3/3951
40. Bui, H. T., Liu, G., Ko, W. W., Curtis, A. Harmonious workplace climate and employee altruistic behavior: from social exchange perspective. *International Journal of Manpower*, 2021, vol. 42, no. 1, pp. 95-112. DOI: 10.1108/IJM-11-2019-0518
41. Van den Berghe, L., Cardon, G., Tallir, I., Kirk, D., Haerens, L. Dynamics of need-supportive and need-thwarting teaching behavior: The bidirectional relationship with student engagement and disengagement in the beginning of a lesson. *Physical Education and Sport Pedagogy*, 2016, vol. 21, no. 6, pp. 653-670. DOI: 10.1080/17408989.2015.1115008
42. Assor, A., Kaplan, H. Mapping the Domain of Autonomy Support. In: Efklides, A., Kuhl, J., Sorrentino, R.M. (eds) Trends and Prospects in Motivation Research. Springer, Dordrecht, 2001. 101-102 p. (In NL.) DOI: 10.1007/0-306-47676-2_7
43. Reeve, J., Jang, H., Carrell, D., Jeon, S., Barch, J. Enhancing students' engagement by increasing teachers' autonomy support. *Motivation and emotion*, 2004, vol. 28, pp. 147-169. DOI: 10.1023/B:MOEM.0000032312.95499.6f
44. Jang, H., Reeve, J., Deci, E. L. Engaging students in learning activities: It is not autonomy support or structure but autonomy support and structure. *Journal of educational psychology*, 2010, vol. 102, no. 3, pp. 588. DOI: 10.1037/a0019682
45. Belmont, M., Skinner, E. A., Wellborn, J., Connell, J. Teacher as Social Context Questionnaire (TASC-Q) [Database record]. APA PsycTests, 1988. DOI: 10.1037/t10488-000
46. Catalán, Á. A., Serrano, J. S., Lucas, J. M. A., Clemente, J. A. J., García-González, L. An integrative framework to validate the Need-Supportive Teaching Style Scale (NSTSS) in secondary teachers through exploratory structural equation modeling. *Contemporary Educational Psychology*, 2018, vol. 52, pp. 48-60. DOI: 10.1016/j.cedpsych.2018.01.001
47. Morgan, K. Reconceptualizing motivational climate in physical education and sport coaching: An interdisciplinary perspective. *Quest*, 2017, vol. 69, no. 1, pp. 95-112. DOI: 10.1080/00336297.2016.1152984
48. Baumeister, R. F., Leary, M. R. The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Interpersonal development*, 2017, pp. 57-89.
49. Hallinger, P. Leading educational change: Reflections on the practice of instructional and transformational leadership. *Cambridge Journal of education*, 2003, vol. 33, no. 3, pp. 329-352. DOI: 10.1080/0305764032000122005
50. Neumerski, C. M., Grissom, J. A., Goldring, E., Rubin, M., Cannata, M., Schuermann, P., Drake, T. A. Restructuring instructional leadership: How multiple-measure teacher evaluation systems are redefining the role of the school principal. *The Elementary School Journal*, 2018, vol. 119, no. 2, pp. 270-297. DOI: 10.1086/700597
51. Ahn, I., Chiu, M. M., Patrick, H. Connecting teacher and student motivation: Student-perceived teacher need-supportive practices and student need satisfaction. *Contemporary Educational Psychology*, 2021, vol. 64, 101950. <https://doi.org/10.1016/j.cedpsych.2021.101950>
52. Bardach, L., Klassen, R. M. Teacher motivation and student outcomes: Searching for the signal. *Educational Psychologist*, 2021, vol. 56, no. 4, pp. 283-297. DOI: 10.1080/00461520.2021.1991799
53. Escrive-Boulley, G., Haerens, L., Tessier, D., Sarrazin, P. Antecedents of primary school teachers' need-supportive and need-thwarting styles in physical education. *European Physical Education Review*, 2021, vol. 27, no. 4, pp. 961-980.
54. Reeve, J., Assor, A. Do social institutions necessarily suppress individuals' need for autonomy? The possibility of schools as autonomy-promoting contexts across the globe. In: Human autonomy in cross-cultural context: Perspectives on the psychology of agency, freedom, and well-being. Dordrecht, Springer Publ, 2010. 111-132 p. (in NL.)
55. Robinson, V. M., Lloyd, C. A., Rowe, K. J. The impact of leadership on student outcomes: An analysis of the differential effects of leadership types. *Educational administration quarterly*, 2008, vol. 44, no. 5, pp. 635-674. DOI: 10.1177/0013161X08321509
56. Hendriks, M., & Steen, R. Results from school leadership effectiveness studies (2005-2010). In: School leadership effects revisited: Review and meta-analysis of empirical studies. Dordrecht, Springer Publ, 2012. 65-129 p. (in NL.)
57. Blase, J., Blase, J. Effective instructional leadership: Teachers' perspectives on how principals promote teaching and learning in schools. *Journal of educational administration*, 2000, vol. 38, no. 2, pp. 130-141. DOI: 10.1108/09578230010320082

58. Ismail, S. N., Don, Y., Husin, F., Khalid, R. Instructional Leadership and Teachers' Functional Competency across the 21st Century Learning. *International Journal of Instruction*, 2018, vol. 11, no. 3, pp. 135-152. DOI: 10.12973/iji.2018.11310a
59. Slemp, G. R., Kern, M. L., Patrick, K. J., Ryan, R. M. Leader autonomy support in the workplace: A meta-analytic review. *Motivation and Emotion*, 2018, vol. 42, no. 5, pp. 706-724. DOI: 10.1007/s11031-018-9698-y
60. Johnson, B., Stevens, J. J., Zvoch, K. Teachers' perceptions of school climate: A validity study of scores from the Revised School Level Environment Questionnaire. *Educational and psychological measurement*, 2007, vol. 67, no. 5, pp. 833-844. DOI: 10.1177/0013164406299102
61. Maas, J., Schoch, S., Scholz, U., Rackow, P., Schüler, J., Wegner, M., Keller, R. Teachers' perceived time pressure, emotional exhaustion and the role of social support from the school principal. *Social Psychology of Education*, 2021, vol. 24, pp. 441-464. DOI: 10.1007/s11218-020-09605-8
62. Ham, S. H., Kim, R. Y. The influence of principals' instructional leadership on teachers' use of autonomy-supportive instruction: an analysis of three Asia-Pacific countries. *The Asia-Pacific Education Researcher*, 2015, vol. 24, no. 1, pp. 57-65. DOI: 10.1007/s40299-013-0158-x
63. Hadi, N., & Tentama, F. Affective commitment, continuance commitment and normative commitment in reflecting organizational commitment. *American International Journal of Business Management*, 2020, vol. 3, no. 8, pp. 148-156. <https://core.ac.uk/download/pdf/333872294.pdf>
64. Mete, E. S., Sökmen, A., & Bıyık, Y. The Relationship Between Organizational Commitment Organizational Identification Person Organization Fit and Job Satisfaction A Research on IT Employees. *International Review of Management and Business Research*, 2016, pp. 870-901, <https://hdl.handle.net/11511/76962>.
65. Chang, Y., Leach, N., Anderman, E. M. The role of perceived autonomy support in principals' affective organizational commitment and job satisfaction. *Social Psychology of Education*, 2015, vol. 18, pp. 315-336. DOI: 10.1007/s11218-014-9289-z
66. Reyes, P. Preliminary Models of Teacher Commitment: Implications for Restructuring the Workplace. Madison, WI: Center on Organization and Restructuring of Schools. 1992. <https://files.eric.ed.gov/fulltext/ED349680.pdf>
67. Harahap, M. E., Suriansyah, A. Relationship of instructional leadership, organizational climate and teacher's commitment to job satisfaction. *Journal of K6 Education and Management*, 2019, vol. 2, no. 4, pp. 260-270. DOI: 10.11594/jk6em.02.04.01
68. Manla, V. H. School climate: Its impact on teachers' commitment and school performance. *Journal of World Englishes and Educational Practices*, 2021, vol. 3, no. 3, pp. 21-35. DOI: 10.32996/jweep.2021.3.2.3
69. Bantilan, J. C., Sombilon, E. J. J., Regidor, A. R., Mondoyo, D. P., Edig, M. M. N. Impact of Transformational Leadership and School Environment on Organizational Commitment of Teachers. *Journal of Social, Humanity, and Education*, 2024, vol. 4, pp. 99-116. DOI: 10.35912/jshe.v4i2.1584
70. De clerq, D., Rius, I. B. Organizational Commitment in Mexican Small and Medium-Sized Firms: The Role of Work Status, Organizational Climate, and Entrepreneurial Orientation. *Journal of Small Business Management*, 2007, vol. 45, no. 4, pp. 467-490. DOI: 10.1111/j.1540-627X.2007.00223.x
71. Bantilan, J. C., Sombilon, E. J. J., Regidor, A. R., Mondoyo, D. P., Edig, M. M. N. Impact of transformational leadership and school environment on organizational commitment of teachers. *Journal of Social, Humanity, and Education*, 2024, vol. 4, no. 2, pp. 99-116. DOI: 10.35912/jshe.v4i2.1584
72. China Department of Vocational Education and Adult Education, Ministry of Education: Public announcement of the proposed award results for the 2022 National Teaching Achievement Award for Vocational Education. Available at: <https://tzpy.ccntv.cn/article/2699> (accessed 16 May 2023)
73. Hallinger, P., Wang, W. C., Chen, C. W., Liare, D. Assessing instructional leadership with the principal instructional management rating scale. Springer Publ., 2015.
74. Rentoul, J. A., Fraser, B. J. Development of a school—level environment questionnaire. *Journal of Educational Administration*, 1983, vol. 21, no. 1, pp. 21-39. DOI: 10.1108/eb009866.
75. Meyer, J. P., Allen, N. J. Commitment in the Workplace: Theory, Research, and Application. Sage Publ., 1997.
76. Anderson, J. C., Gerbing, D. W. Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 1988, vol. 103, no. 3, pp. 411-423. DOI: 10.1037/0033-2909.103.3.411
77. Hair, J. F., Black, W. C., Babin, B. J., Anderson, R.E., Tatham, R.L. Multivariate Data Analysis (7th ed.). Englewood Cliffs, NJ: Prentice Hall, 2009.
78. Doll, W. J., Xia, W., Torkzadeh, G. A Confirmatory Factor Analysis of the End-User Computing Satisfaction Instrument. *MIS Quarterly*, 1994, vol. 18, no. 4, pp. 453-461. DOI: 10.2307/249524
79. Hu, L. T., Bentler, P. M. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 1999, vol. 6, no. 1, pp. 1-55. DOI: 10.1080/10705519909540118
80. Ullman, J. B., P. M. Bentler. Structural Equation Modeling. In Handbook of Psychology, edited by I. Weiner, J. A. Schinka, and W. F. Velicer, 2nd ed. John Wiley & Sons. 2012, pp. 607-634. DOI: 10.1002/9781118133880.hop202023.
81. Diccio, T. J., Romano, J. P. A review of bootstrap confidence intervals. *Journal of the Royal Statistical Society Series B: Statistical Methodology*, 1988, vol. 50, no. 3, pp. 338-354. DOI: 10.1111/j.2517-6161.1988.tb01732.x
82. Eisenberger, R., Fasolo, P., Davis-LaMastro, V. Perceived organizational support and employee diligence, commitment, and innovation. *Journal of applied psychology*, 1990, vol. 75, no. 1, p. 51. DOI: 10.1037/0021-

9010.75.1.51

83. Aryee, S., Sun, L. Y., Chen, Z. X. G., Debrah, Y. A. Abusive supervision and contextual performance: The mediating role of emotional exhaustion and the moderating role of work unit structure. *Management and Organization Review*, 2008, vol. 4, no. 3, pp. 393-411. DOI: 10.1111/j.1740-8784.2008.00118.x
84. Thien, L. M., Liu, S., Yee, L. Q., Adams, D. Investigating a multiple mediated-effects model of instructional leadership and teacher professional learning in the Malaysian School Context: A partial least squares analysis. *Educational Management Administration & Leadership*, 2023, vol. 51, no. 4, pp. 809-830. DOI: 10.1177/17411432211009892
85. Qadarsih, L., Aslamiah, A., Sulaiman, S. Relationship between Principal Instructional Leadership, Job Satisfaction, Work Commitment and Performance of SDN Teacher in South Banjarmasin District, Banjarmasin City. *International Journal of Social Science and Human Research*, 2023, vol. 6, no. 5, pp. 2903-2911. DOI: 10.47191/ijsshr/v6-i5-50
86. Normianti, H., Aslamiah, A., Suhaimi, S. Relationship of transformational leaders of principal, teacher motivation, teacher organization commitments with performance of primary school teachers in Labuan Amas Selatan, Indonesia. *European Journal of Education Studies*, 2019, vol. 0. doi: 10.46827/ejes.v0i0.2308
87. Alanoglu, M. The role of instructional leadership in increasing teacher self-efficacy: A meta-analytic review. *Asia Pacific Education Review*, 2022, vol. 23, no. 2, pp. 233-244. DOI: 10.1007/s12564-021-09726-5
88. Kilag, O. K. T., Sasan, J. M. Unpacking the role of instructional leadership in teacher professional development. *Advanced Qualitative Research*, 2023, vol. 1, no. 1, pp. 63-73. DOI: 10.31098/aqr.v1i1.1380
89. Dutta, V., Sahney, S. Relation of principal instructional leadership, school climate, teacher job performance and student achievement. *Journal of Educational Administration*, 2022, vol. 60, no. 2, pp. 148-166. DOI: 10.1108/JEA-01-2021-0010

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