RedFame

Journal of Education and Training Studies
Vol. 14, No. 1; January 2026
ISSN 2324-805X E-ISSN 2324-8068
Published by Redfame Publishing
URL: http://jets.redfame.com

The Mediating Role of School Climate in the Relationship Between Teacher Autonomy and Job Satisfaction Among Teachers in the UAE: Evidence from TALIS 2018

Mohammed Issah[1], Ernest Afari[2]

[1]Assistant Professor, Education Studies Department, Bahrain Teachers College, University of Bahrain. Email: missah@uob.edu.bh

[2] Assistant Professor, Mathematics, Science & ICT Department, Bahrain Teachers College, University of Bahrain.

Correspondence: Mohammed Issah, Assistant Professor, Education Studies Department, Bahrain Teachers College, University of Bahrain. Email: missah@uob.edu.bh

Received: June 8, 2025 Accepted: December 22, 2025 Online Published: December 27, 2025

doi:10.11114/jets.v14i1.8323 URL: https://doi.org/10.11114/jets.v14i1.8323

Abstract

This study examined the relationships between teacher autonomy, school climate, and teacher job satisfaction among 1554 teachers from the United Arab Emirates (UAE) who participated in the 2018 Teaching and Learning International Survey (TALIS). The researchers used structural equation modeling (SEM) in Mplus and Confirmatory Factor Analysis (CFA) to analyze the data. The findings showed that teacher autonomy was not associated with either dimension of teacher job satisfaction. School climate, however, had a statistically significant link with satisfaction with the work environment and the profession. Additionally, there was a significant association between teacher autonomy and school climate. Nonetheless, school climate did not mediate the relationship between teacher autonomy and teacher job satisfaction. These results suggest that school leaders and stakeholders can enhance teacher satisfaction by fostering a positive, supportive, and collaborative work environment to boost overall job satisfaction.

Keywords: school climate, teacher job satisfaction, teacher autonomy, TALIS, structural equation modeling, United Arab Emirates

1. Introduction

Teacher job satisfaction has become the focus of both educators and policymakers due to its significant impact on the quality of education and learning (Kengatharan, 2020). Job satisfaction is one of the most researched concepts in the social sciences. Job satisfaction refers to an individual's feelings and attitudes towards their work and what the profession offers, as well as what they expect to gain from it (Al Jadidi, 2022). In view of increased interest in the topic of teacher job satisfaction over the decade, there has been an increase in research exploring the factors that can influence teachers' job satisfaction in recent years. Job satisfaction is found to contribute to an increase in positive feelings, enhances loyalty, a sense of belonging and responsibility, and leads to creativity in work (Al Jadidi, 2022). Teachers' job satisfaction is teachers' overall assessment of their emotional experience and cognitive expression in relation to their job, work conditions, and state (Hoque et al. 2023). The existing literature suggests that job satisfaction can be affected by many factors, such as factors related to the work settings, factors relating to specific aspects of the job, and factors related to individuals involved (Koustelios et al. 2004; Hoque et al. 2023). For example, Perie and Baker (1997) found out in their study that the schoolwork climate has a positive relationship with job satisfaction of teachers regardless of the type of school and background characteristics of the teachers or the school. Despite the many studies on factors influencing job satisfaction, there is no consensus on the factors influencing teachers' job satisfaction (Niu et al. 2023).

Furthermore, job satisfaction affects organizational outcomes such as teachers' burnout intentions, workplace conditions, teacher motivation, student achievement, teacher commitment, teacher autonomy, and distributed leadership (Yorulmaz, Çolak, Altinkurt, 2017; Perie & Baker, 1997; Stearns et al. 2015; Fradkin-Hayslip, 2021; Hoque et al. 2023; Al Jadidi, 2022; Liu et al. 2021; Keddie et al. 2023).

Despite the existence of studies about teachers' job satisfaction, the role of school climate and teacher autonomy in job

satisfaction has been overlooked. This neglect is even noticeable in published research studies about Middle Eastern countries. In a meta-analysis, Hoque et al. (2023) concluded that there was a clear correlation between cultural differences in the different regions and factors affecting teachers' job satisfaction and therefore should not be ignored. The conclusion by the authors further gives support to the relevance of the current study. Although there is evidence in the existing literature of the positive effect of teacher autonomy on job satisfaction in English-speaking countries, the objective of the current study is to determine whether the relationship holds in the Middle Eastern context.

2. TALIS

The Organization for Economic Cooperation and Development (OECD) conducts the Teaching and Learning International Survey (TALIS) (OECD, 2019). TALIS is the first international series of surveys with a major focus on the learning environment and the working conditions of teachers in the schools (OECD, 2019). The TALIS 2018 survey was initiated and managed by OECD on behalf of the 49 participating countries and economies (OECD, 2019). The survey included teachers and principals from primary schools (ISCED 1), lower secondary schools (ISCED 2), and high-secondary schools (ISCED 3) (OECD, 2019). The OECD authorized all participating countries/economies to administer the ISCED level 2 core survey to teachers and principals for TALIS 2018 (OECD, 2019).

2.1 UAE Context

The government of the United Arab Emirates demonstrated its commitment to education by launching a 5-year education development plan in 2010 and introducing an enhanced curriculum for mathematics and integrated science at the first-grade level in 2003 in all public schools. In addition, the Abu Dhabi Education Council (ADEC) took a decision to develop an elementary school pilot program with Zayed University to enhance English language skills among students with the intent to build a national teaching force as part of the Emiratization program. Recruiting national teachers was considered the key to developing the emirate's educational system (Dickson, 2013).

The UAE's educational system is made up of two separate sectors: the public and private sectors. The public sector education is funded by the government and only educates Emirati children following the Ministry of Education decision (Gaad, 2015). The UAE's Vision 2021 is focused on achieving high-quality education (El Saadi, 2017). The UAE's constitution and Federal Law No. 11 of 1972 instituted compulsory and free primary education at all levels for UAE nationals (Spranza, 2016). In a study on key stakeholders' perception of school improvement strategies in the UAE, teachers were of the view that school improvement should be a mutual collaborative effort geared towards changing school factors, teaching-learning factors, and school-community factors (Al Ahbabi, 2019). The author noted that the process of decision-making, instructional, and assessment policies should be an outcome of constant consultation with teachers, parents, and students. A 2009 ADEC survey revealed that teachers in public schools did not feel included in school decisions. This is because within the UAE, the Ministry of Education and ADEC make both managerial and pedagogical decisions from curriculum to teacher salary (Matsumoto, 2019). Also, Ertem et al (2021) reported that school climate and teacher autonomy are interrelated concepts in a healthy school environment. Therefore, it is hypothesized in the present study that teacher autonomy directly and indirectly influences teachers' job satisfaction.

3. Literature Review

3.1 Teacher Autonomy

Teacher autonomy is a multidimensional context-dependent phenomenon (Salokangas et al. 2019). Autonomy, when applied in education, presents a complex and challenging undertaking because education systems are complex in nature with multiple layers of actors (teachers, principals, and learners). In a school system, the autonomy of an individual or group of actors has implications for the autonomy of other actors and the functioning of the school system (Wermke & Salokangas, 2015). Teacher autonomy has increasingly become a central issue in education development, generating a lot of debate and investigation. The early 1980s witnessed an increased interest in the concept of teacher autonomy among practitioners and researchers in educational organizations (Friedman, 1999), coupled with a growing movement towards recognizing teaching as a profession to give teachers the freedom to make decisions in the best interest of students (Pearson & Moomaw, 2007). Teacher autonomy has evolved from independence and isolation to that of collaboration and accountability to contribute to school efficiency and development (Westheimer, 2008; Yorulmaz, Çolak, Cicek-Saglam, 2018). One area where a teacher is granted some autonomy is in pedagogical decisions and planning (Friedman, 1999; Narayanan et al. 2024).

Historically, teaching is perceived not as a profession but as a job in comparison with other professions. This perception may be due to the higher degree of government oversight, bureaucratic organizations, and low status of teaching (Danielson, 2007). Consequently, in most countries, teachers are provided with limited autonomy (Yorulmaz et al. 2018). For example, in the United Arab Emirates, decision-making at the school level is directed by the Ministry of Education and ADEC (Matsumoto, 2019). In view of the complexity of the concept, teacher autonomy should be

discussed within the national context in which teachers operate. As Grundy (1994) noted, while teachers are being held responsible for the failure or success of educational reforms, teachers' autonomy has gained little attention in such circumstances.

Studies have shown that a high degree of teachers' autonomy is associated with positive effects such as motivation, job satisfaction, working climate, stress/burnout, professionalism, and empowerment (see Pearson & Moomaw, 2005; Kengatharan, 2020; Worth & Van den Brande, 2020; Perie & Baker, 1997; Parker, 2015; Wilches, 2007). For example, in a US Department of Education study on job satisfaction, teacher autonomy was among the conditions associated with higher teacher satisfaction among American teachers. And it turned out that teachers with higher autonomy have higher levels of job satisfaction than teachers with less autonomy (Perie & Baker, 1997; Pearson & Moomaw, 2005). However, these studies are limited (see Pearson & Moomaw, 2005) and are in the United Arab Emirates. Despite the important role of teachers' decisions in student learning, there seem to be fewer efforts made globally to increase teachers' autonomy over their working conditions (Dincer, 2019). Giving teachers greater control over the decisions related to the different aspects of their work can lead to greater job satisfaction (Stearns et al. 2015; Perie & Baker, 1997; Pearson & Moomaw, 2005).

Furthermore, Kengatharan (2020) found that teacher autonomy and student behaviour relate positively to teacher job satisfaction, and that a higher level of teacher autonomy strengthens the relation between student behaviour and teacher job satisfaction. Teacher autonomy is linked to school outcomes such as student achievement, teacher goal orientations, teacher leadership, and teacher satisfaction (see Yorulmaz et al. 2018; Ertem et al. 2021; Kara & Bozkurt, 2022). Therefore, a supportive teacher's autonomy might contribute to individual and organizational outcomes, and by extension, the quality of education (Yorulmaz et al. 2018). Despite the extent of teacher autonomy-related investigations, it seems there is no consensus on the definition of teacher autonomy as applied in philosophy and education (Liu et al. 2021; Wermke & Salokangas, 2015). As a multidimensional concept, Kara and Bozkurt (2022) argued that autonomy as a concept should embrace the dimensions of planning the educational process, curriculum development, professional development, and cooperation. In this study, teacher autonomy is discussed with a focus on teachers' professional interactions in the school system (Keddie et al. 2023; Wermke & Salokangas, 2015). Teacher autonomy was selected as one of the concepts in the present study because of the evidence in the literature of its influence on teacher job satisfaction. In addition, the concept with be explored in the context of the school environment because of the consequences of the autonomy of individuals or groups of actors on the autonomy of other actors in the environment (Wermke & Salokangas, 2015).

3.2 School Climate

Research on school climate is plagued with inconsistencies in definitions and taxonomies, and often described with characteristics such as school context, structures, and processes (Rudasill et al. 2018). According to the systems theory, school is a microsystem within which school climate is created based on the perceptions of the members (Rudasill et al. 2018). It suggests that, as a school-level factor, school climate is teachers' perception of the attitudes of the other stakeholders operating within the school context (You et al., 2015). Teachers' job satisfaction, according to You et al. (2015), "is influenced not only by the teachers' individual characteristics but also the culture of their schools" (p. 285). Schools, like organizations, have certain characteristics that represent organizational climate. According to the existing literature, school climate consists of the common values, beliefs, faith, and opinions, and it is these common values, beliefs, faith, and opinions that govern the interactions of stakeholders and the code of conduct of the school (Türker & Kahraman, 2021). The stakeholders in the context of school include teachers, students, administrators, parents, and other staff of the school. The organizational climate for schools is represented by a special atmosphere called school climate, and the school climate is related to the quality of the school environment (Ertem et al. 2021). Türker and Kahraman (2021) describe school climate as a psychosocial environment where teachers instruct and teach. Autonomy-supportive work climates are ones in which managers can take employees' perspectives, provide greater choice, and encourage self-initiation (Gagne & Deci, 2005). It can be argued that school climate can enhance or impede teachers' efforts to fulfill their needs at the workplace (Sergiovanni & Starratt, 2002). Consequently, school climate was selected as one of the variables of interest in the present study. Moreover, evidence in the existing literature suggests a link between positive climate in a school and its effectiveness. School climate is significantly related to job satisfaction measures (Fang & Qi, 2023). School climate is a predictor of psychological outcomes such as job satisfaction (Nalipay, 2023; Wang & Degol, 2016).

3.3 Teacher Job Satisfaction

"Teacher job satisfaction is a multidimensional construct and varies according to school conditions" (Liu et al. 2021, p. 2). According to Hoque et al. (2023), teacher job satisfaction reflects an individual teacher's overall emotional experience and cognitive expression of his or her occupation, working conditions, and state. Therefore, a teacher may

be satisfied with the teaching profession but not the school environment in which he or she works, and as a result may seek another school (Liu et al., 2021). According to the theory of satisfaction, a person feels satisfied in working if his or her physiological, safety, self-esteem, and self-actualization needs are met (Luthans, 2008). In this study, teachers' job satisfaction is conceptualized as the teachers' satisfaction with the work environment and the teaching profession (Nalipay, 2023). On the relationship between teacher autonomy and job satisfaction, findings from several studies reveal inconsistencies (Hoque et al. 2023). For example, in a study to examine the relations between teacher autonomy and levels of job satisfaction among EFL teachers in Turkey, Dincer (2019) found no relationship between teachers' perceived autonomy and their level of job satisfaction. In contrast, Koustelios et al. (2004) examined the relationship between teacher autonomy and job satisfaction, and their findings suggest a positive significant relationship between teacher autonomy and job satisfaction. Thus, the current study will contribute to the discourse on the role of teacher autonomy and school climate in teachers' job satisfaction.

4. Theoretical Framework

Self-determination theory is a theory of human motivation where individuals are perceived as proactive (Ryan and Deci, 2017). The assumption underlying the theory is that human beings by nature have the tendencies to be curious about their environment and the interest in learning from their experiences in a volitional manner (Niemiec & Ryan, 2009; Guay, 2022). According to the SDT theory, autonomy is one of the basic psychological needs that drives human motivation along with competence and relatedness (Ryan & Deci, 2017). These needs are universal and can either be fulfilled or thwarted depending on the environment.

The SDT posits that individuals who have a greater amount of autonomy demonstrate positive feelings towards their jobs (Kengatharan, 2020). Autonomy refers to the necessity of experiencing a sense of choice, willingness, and volition as one behaves (Guay, 2022; Gagne & Deci, 2000). According to Ertem et al. (2021), teacher autonomy can be viewed as a phenomenon related to teachers' own selections and decisions in teaching and related activities in the interest of student learning. Worth and Van den Brande (2020) concluded that teacher autonomy is highly correlated with job satisfaction. The findings suggest that in the context of school and workplace, teachers who feel they can make their own decisions, have control over their work, and take actions guided by their values and interests, are more likely to experience higher levels of job satisfaction. Thus, teachers need to have control over their work environment and to have decision-making authority. For example, teachers should be "able to reorganize the educational environment and curriculum according to the needs of their students" (Pearson & Moomaw, 2005, p.93).

Zhang et.al (2023) argue that a positive school climate can foster teaching enjoyment and create a sense of higher satisfaction and perceived teaching effectiveness in teachers. School atmosphere is an influential factor of teachers' job satisfaction (Katsantonis, 2019; Zakariya, 2020). Creating a positive and supportive environment, providing opportunities for collaboration can increase teachers' sense of autonomy and job satisfaction (Zhang et al. 2023). Similarly, the Social Cognitive Theory suggests that the individuals' cognition, individuals' behavior, and individuals' external environment interact to influence human activity (Bandura, 1986). The study adopts the SDT and SCT theories to explore the interplay between individual and contextual factors, such as teacher autonomy and school climate, and their influence on teaching outcome (job satisfaction). In addition, based on the underlying theories and evidence in the extant literature, a hypothesized model (see Figure 1) and hypotheses are proposed below.

4.1 Research Model and Hypotheses

The proposed research model for the present study, in Figure 1, hypothesizes the following:

Hypothesis 1: Teacher autonomy is statistically significantly associated with teacher job satisfaction (environment, profession).

Hypothesis 2: School climate is statistically significantly associated with teacher job satisfaction (environment, profession).

Hypothesis 3: Teacher autonomy is statistically significantly associated with school climate

Hypothesis 4: School climate mediates the relationship between teacher autonomy and teacher job satisfaction (environment, profession).

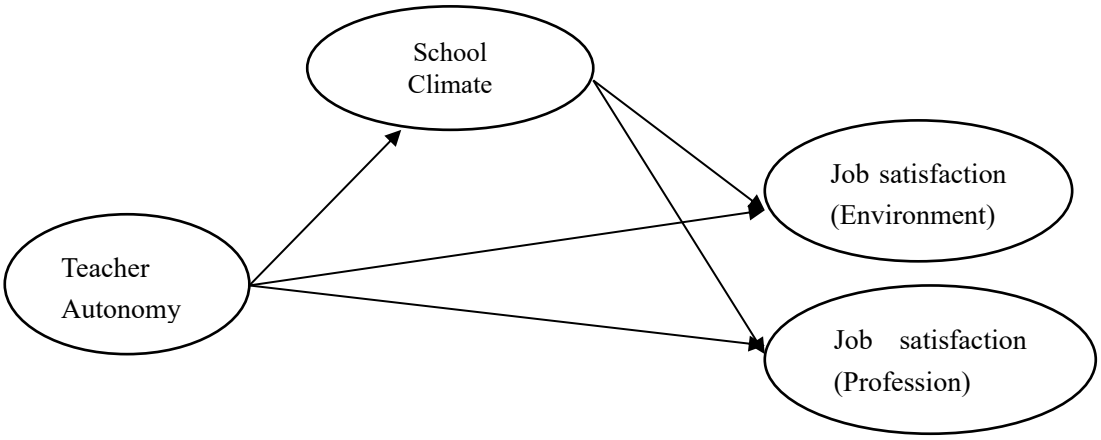

Figure 1. Proposed Research Model

Note. Proposed research model showing the relationship between teacher autonomy, school climate, satisfaction with work environment, and profession to be tested using the structural equation modeling technique.

5. Methodology

The present study is based on the analysis of secondary data from the Organization for Economic Cooperation and Development (OECD) TALIS 2018 database. The selection of the study sample and variables was based on the related literature. In the current study, teachers' job satisfaction (environment) and teachers' job satisfaction (Profession) were determined as the dependent (predicted) variables, while school climate and teacher autonomy were determined as the independent (predictor) variables.

5.1 Data and Participants

The study used secondary data from the Organization for Economic Cooperation and Development's (OECD) third cycle of the TALIS 2018 database. More than one hundred thousand teachers from 48 countries participated in the third cycle of TALIS 2018. A two-stage stratified probability sampling procedure was used. In the first stage, 200 schools in each participating country were randomly selected, and in the second stage, 20 teachers were randomly selected from the selected schools. These are teachers who provide instruction at the ISCED 2 level (International Standard of Classification of Education). All participating countries/economies are mandated by the TALIS 2018 to administer the ISCED 2 core survey to teachers and their principals (OECD, 2019, p.112). A total of 1554 teachers from the United Arab Emirates (UAE) took part in the Teaching and Learning Survey (TALIS 2018). The teachers responded to questions related to teacher beliefs and practices, teachers' work, feedback and recognition, school leadership, school climate, and job satisfaction. To ensure the quality of data, countries were allowed to run standardized checks on their data to detect inconsistencies, duplicate records, or erroneous data entry (OECD, 2019).

5.2 Measures

The UAE teachers who participated in the survey responded to 21 items underlying four main factors from TALIS 2018 data. According to the TALIS 2018 technical report, all the measures selected for the present study achieved metric invariance.

5.2.1 Teacher Autonomy

Teacher autonomy in the current study is measured by the TALIS 2018 "scale satisfaction with classroom autonomy". Although related to job satisfaction, it is not described as a subscale in TALIS 2018. Teachers were asked to rate the extent to how strongly they agree or disagree that you have control over the following areas of planning and teaching (5 items) (from 1 = strongly disagree to 4 = strongly agree) (see Table 1). A sample item is: TT3G40C: "Assessing students' learning." The Cronbach alpha for the teacher autonomy scale is .851, and the omega coefficient is .852.

5.2.2 School Climate

The study selected one of three scales of the TALIS 2018 school climate scales for the hypothesized model. Teachers were asked to rate the extent to which they agree with 8items (from 1 = strongly disagree to 4 = strongly agree) (see Table 1). A sample item is: "This school provides students with opportunities to actively participate in school decisions." The Cronbach alpha for the school climate scale is .928, and the omega coefficient is .928.

5.2.3 Job Satisfaction (Profession)

Teachers were asked how they generally feel about their job and were asked to rate the extent to how strongly they agree or disagree with 4 items (from 1 = strongly disagree to 4 = strongly agree) (see Table 1). A sample item is: TT3G53A: "The advantages of being a teacher clearly outweigh the disadvantages." The Cronbach alpha for the job satisfaction (profession) scale is .729, and the omega coefficient is .759.

5.2.4 Job Satisfaction (Environment)

Teachers were asked how they generally feel about their job and were asked to rate the extent to how strongly they agree or disagree with 4items (from 1 = strongly disagree to 4 = strongly agree) (see Table 1). A sample item is: TT3G53C: "I would like to change to another school if that were possible." The Cronbach alpha for the job satisfaction (environment) scale is .767, and the omega coefficient is .770.

6. Data analysis and Results

We used both Confirmatory Factor Analysis (CFA) and Structural equation modeling (SEM) approaches in Mplus Version 8.3 (Muthen and Muthen, 1998-2019) for data analysis. The SEM technique was selected rather than simple regression analysis because (1) it provides the appropriate and most efficient estimation technique for a series of separate multiple regression equations estimated simultaneously (Hair et al. 2010, p.20), (2) the SEM technique accommodates multiple dependents. For example, the model of the present study consists of three (satisfaction with work, satisfaction with environment, and school climate), (3) it allows for the assessment of the contribution of multi-scale in the analysis, and corrects for measurement error (Hair et al., 2010). We used SEM to test the hypothesized model. A measurement model was established to test the validity of the latent constructs through confirmatory factor analysis (CFA). SEM and CFA were estimated using the robust maximum likelihood (MLR) estimator to compute the parameter estimates and standard errors through Mplus. The teacher weight (TCHWGT) and teacher ID (IDTEACH) in the TALIS dataset were used as weighting and clustering variables to address unequal probability of selection and the non-independence of teachers (Liou, 2021). To calculate standard errors and chi-square test statistics, full information maximum likelihood estimation (FIML) in Mplus, which is robust to non-normality, was used. Missing data were handled using the Mplus multiple imputation procedure (Asparouhov & Muthen, 2010). Kline (2016) recommends reporting multiple fit indices for evaluating model fit. The Comparative fit index (CFI) and Tucker-Lewis index (TLI) with values greater than .90 indicate good model fit, and a Root Mean Square Error (RMSEA) of less than or equal to .05 means a close approximate fit, while values between .05 and .08 suggest reasonable error of approximation, whereas values equal to or greater than .10 suggest poor fit. Furthermore, standardized root mean square residual (SRMR) values less than or equal to .08 suggest an acceptable fit (Hu & Bentler, 1999).

6.1 Descriptive Statistics

Table 1 is a presentation of the mean, standard deviation, skewness, and kurtosis for all the constructs in the present study. The mean score ranged from 3.02 to 3.28, and no standard deviation was greater than 1.00, indicating that participants' responses were spread close to the mean. Skewness and kurtosis were examined to determine the univariate normality in the data. Skewness ranged from -0.537 to – 0.770, and kurtosis ranged from 0.158 to 1.230, respectively. According to Kline (2016), the absolute value of skewness and kurtosis should be less than 3 and less than 7, respectively, indicating that the data in the present study are normal and acceptable for further analyses.

Table 1. Nmuber of items, mean, standard deviation, skewness and kurtosis

Constructs	# of Items	Mean	Standard Deviation	Skewness	Kurtosis
Teacher autonomy	5	3.28	0.577	-0.770	1.230
School climate	8	3.05	0.611	-0.537	0.829
Jobsatisfaction (Environment)	4	3.02	0.679	-0.543	0.293
Job satisfaction (Profession)	4	3.05	0.695	-0.619	0.158

6.2 Evaluation of the Measurement Model

The measurement model was assessed by conducting CFA using Mplus Version 8.3 (Muthen Muthen, 1998-2019). The standardized factor loadings reported .627 to .974 and were statistically significant ($p < .05$) as indicated by *t*-values more than 1.96. Items with factor loadings below 0.5 were dropped from the final model (TT3G53F, TT3G53J, & TT3G48B) (See Table 2). The measurement model had adequate validity because all factor loadings were above .50 (Hair et al., 2010). To assess the convergent validity of the measurement items, Fornell and Larcker (1981) recommend that the factor loading of each item, the composite reliability of each construct, and the average variance extracted must be examined. In Table 2, the values of composite reliability (C.R) of the four constructs ranged from .795 to 984 and were higher than .70, as Nunnally and Bernstein (1994) suggested. The final criterion for convergent validity was the measure of the average variance extracted (AVE) for each construct. The AVE for all the constructs was greater than .50.

For example, School climate (.858), Teacher autonomy (.925), Job satisfaction (environment) (.567), and Job satisfaction (profession) (.680). Therefore, all three criteria necessary for convergent validity have been satisfied by the measurement properties

Table 2. Confirmatory factor loadings and reliability analysis

Constructs	Standardized Factor Loading	*t*-value
School Climate (C. R = .977 ; AVE = .858)		
1. TT3G48A: This school provides staff with opportunities to actively participate in school decisions	.867	19.441
2. TT3G48C: This school provides students with opportunities to actively participate in school decisions.	.934	39.522
3. TT3G48D: This school provides students with opportunities to actively participate in school decisions	.943	34.262
4. TT3G48E: There is a collaborative school culture which is characterised by mutual support	.928	28.834
5. TT3G48F; The school staff share a common set of beliefs about teaching and learning.	.945	34.633
6. TT3G48G: The school staff enforces rules for student behaviour consistently throughout the school.	.938	26.211
7. TT3G48H: This school encourages staff to lead new initiatives.	.925	24.194
Teacher Autonomy (C.R. = .984 ; AVE = .925)		
8. TT3G40A: Determining course content	.963	48.245
9. TT3G40B: Selecting teaching methods	.928	24.451
10. TT3G40C: Assessing students' learning	.970	41.257
11. TT3G40D: Disciplining students	.973	44.450
12. TT3G40E: Determine the amount of homework to be assigned	.974	48.397
Job Satisfaction (*Profession)* (C.R. = .864 ; AVE = .680)		
13. TT3G53A: The advantages of being a teacher clearly outweigh the disadvantages.	.880	13.609
14. TTG53B: If I could decide again, I would still choose to work as a teacher.	.794	9.307
15. TT3G53D*: I regret that I decided to become a teacher.	.797	8.164
Job Satisfaction (Environment*)* (C.R. = .795 ; AVE = .567)		
16. TT3G53C: I would like to change to another school if that were possible	0.627	5.438
17. TT3G53E: I enjoy working at this school	0.824	10.243
18. TT3G53G: I would recommend this school as a good place to work	0.793	8.042

Model Fit Statistics (Chi-square = 184.310, df = 107, TLI = 0.906; CFI = 0.926, RMSEA = 0.009[0.007;0.011] SRMR = 0.051

* Items were reverse-coded. C. R. = Composite Reliability, AVE = Average variance extracted

6.3 Discriminant Validity

Discriminant validity assesses how much a construct is empirically different from other elements of the structural model. The discriminant validity was assessed using the Fornell-Larcker and HTMT criteria. According to the Fornell and Larcker (1981) criteria, each construct's AVE must be contrasted with each other's square inter-construct correlation, and all other reflectively assessed constructs in the structural model. Furthermore, any construct's shared variance must exceed the AVE. As shown in Table 3, the average variance extracted is less than the square root of the average variance extracted. The second criterion to assess discriminant validity is the Heterotrait-Monotrait (HTMT) developed by Henseler et al (2015). Henseler et al (2015) recommend a threshold value of 0.90 for structural models with highly comparable structures, and a value of 0.85 for structural models with fundamentally distinct constructs. The results in Table 4 show that the correlations across the pair of constructs are less than the suggested HTMT value of .85 (Kline, 2016). The evaluation results for the HTMT and Fornell-Larcker criteria show that the current study has attained appropriate discriminant validity (See Tables 3 and 4).

Table 3. Inter-construct correlations and the square root of average variances extracted

	1	2	3	4
1. Teacher autonomy	**(.962)**			
2. School climate	.411**	**(.926)**		
3. Job satisfaction (Environment)	.260**	.599**	**(.753)**	
4. Job satisfaction (Profession)	.135**	.200**	.342**	**(.825)**

**p <.01 Bold values in diagonal are the square root of AVE.

Table 4. Discriminant validity using HTMT criterion

	School Climate	Teacher Autonomy	Job Satisfaction (environment)	Job Satisfaction (profession)
School Climate				
Teacher Autonomy	.60687			
Job Satisfaction (Env)	.82383	.32616		
Job Satisfaction (Prof)	.59043	.17792	.60152	

5.4 Evaluation of Structural Model

A structural model test showed a good model fit (CFI = 1.000; TLI = 1.000; RMSEA = .000; SRMR = .000). The results indicated that the relationship between teacher autonomy and job satisfaction (environment)

($\beta = .173, p = .066$) and job satisfaction (profession) ($\beta = .120, p = .129$) were not statistically significant. However, school climate had a direct statistically significant effect on Job satisfaction (environment) ($\beta = .368, p < .001$), and Job satisfaction (profession) ($\beta = .430, p < .001$). Finally, the relationship between teacher autonomy and school climate was statistically significant ($\beta = .498, p < .001$)The hypothesized relationships between the constructs are represented in Figure 2.

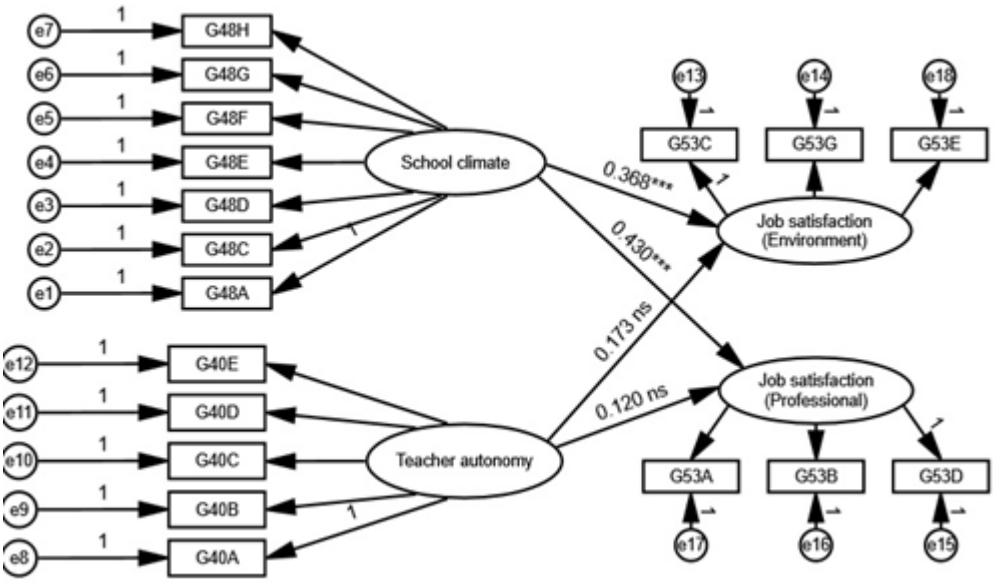

Figure 2. Structural model with standardized coefficients

Note. Structural model showing path coefficients and association between constructs (teacher autonomy, school climate, satisfaction with work environment, and profession.

The results of the structural model (see Table 5) reveal that one out of three hypotheses was supported by the data. Job satisfaction (Environment) and Job satisfaction (profession) were the two endogenous variables tested in the model. School climate predicted both measures of job satisfaction - Job satisfaction (environment) with R2 of .229 (22.9% of variance explained) and Job satisfaction (profession) with R2 of .251 (25.1% of variance explained).

Table 5. Structural Model Test Results

Hypothesized Relationships	Standardized Estimates	*t*-values	Hypothesis Supported
Path: School climate → Job satisfaction (environment)	.368	4.016***	Supported
Path: School climate → Job satisfaction (profession)	.430	4.689***	Supported
Path: Teacher autonomy → Job satisfaction measures	.173	1.835	Not supported
Path:Teacher autonomy → Job satisfaction (profession)	.120	1.518	Not supported
Path: Teacher autonomy → School climate	.498	7.183***	Supported
Square multiple correlations (R^2)			
Job satisfaction (environment)	.229		
Job satisfaction (profession)	.251		
Model fit statistics			
$\chi^2 = .000$, CFI = 1.000, TLI = 1.000, RMSEA = .000,	SRMR= 000		

6.6 Mediating Effects

Mediating analysis was conducted to examine the direct and indirect effects of the variables in the proposed model with Mplus Version 8.3 (Muthen and Muthen, 1998-2019). The following relations were examined in the analysis. Whether school climate mediates the relationship between teacher autonomy and job satisfaction (environment, profession). The mediating analysis of the model reveals that the indirect effects from teacher autonomy to job satisfaction (profession and environment) through school climate were statistically not significant.

7. Discussion

The present study was conducted to explore the relations of school climate and teacher autonomy on teacher job satisfaction (environment) and teacher job satisfaction (profession) among 1554 teachers from the UAE who participated in the TALIS 2018. The study established relationships between teacher autonomy, school climate, and job satisfaction.

7.1 Association of School Climate, Teacher Autonomy, and Job Satisfaction

First, the results of the present study showed that school climate is associated with job satisfaction (environment), and job satisfaction (profession), respectively (Fang & Qi, 2023). The findings of the present study is consistent with previous studies. For example, You et al. (2017) and Dou et al. (2017) found in their respective studies that school climate is directly and positively associated with teachers' job satisfaction. Similarly, Lok and Crawford (2003) and Waruwu (2015) in their respective studies found that school climate has a significantly positive association with teachers' job satisfaction. The findings of the present study imply that teachers who hold a positive view of the work environment tend to be more satisfied and committed to their work (Kraft & Falken, 2020).

Second, the current study showed that teacher autonomy is not statistically associated with job satisfaction (environment) and job satisfaction (profession), respectively (Dou et al 2017; Dincer, 2019), in contrast to findings by Kengatharan (2020). This finding is not surprising because it was noted in the 2009 ADEC survey that many public-school teachers in the UAE felt excluded from the decision-making process and therefore lacked autonomy. A consequence of managerial and pedagogical decisions being directed by the UAE Ministry of Education and ADEC at the school level (Matsumoto, 2019, p. 10). The findings in the present study is inconsistent with several other studies (See Liu et al. 2021; Zheng et al. 2018; Stearns et al. 2015; Koustelios et al. 2004). A high autonomy environment enables teachers to express their own views and personal teaching style and to some extent guarantees teachers' work efficiency and flexibility (Bakker et al. 2008). However, school principals in the UAE are powerful figureheads who generally possess authoritative leadership styles and who take directives from leadership higher up the hierarchical chain (Al Jamal, 2013). Therefore, in the UAE context, school leadership and management are probably less distributive, hence teachers who participated in the TALIS 2018 do not feel the environment enables them to express their own views and personal teaching styles. In the UAE, the MOE and ADEC dictate all educational-related decisions (Matsumoto, 2019). The author further noted that it is critical for the UAE to work to improve its methods of communicating with teachers about policy and to encourage feedback and cooperation. Finally, there is a positively significant association between teacher autonomy and school climate, contrary to the conclusion by Dou et al. (2017) that teacher autonomy is not influenced by school climate. Moreover, teacher autonomy is a phenomenon that is context-dependent (Salokangas, Wermke, & Harvey, 2019), and thus, the influence of teacher autonomy will vary depending on the context. However, the present study found that school climate did not mediate the relationship between teacher autonomy and dimensions of job satisfaction. This may be due to a lack of decision-making power among teachers in the UAE because all decisions are made at the ministerial level (Matsumoto, 2019). In line with the Social Cognitive Theory, the findings suggest that school climates in the UAE do not influence the psychological needs of the teachers.

7.2 Conclusion, Theoretical Implications, and Limitations

The current study has both theoretical and practical implications. By confirming the relationship between school climate and job satisfaction, this study contributes to the extant literature. The study found that school climate has a positive association with both teachers' job satisfaction (environment) and job satisfaction (profession). School climate explains 22.9% of the variance in satisfaction with job environment and 25.1% in satisfaction with profession. The variance explained should be considered important. According to the SCT theory, a positive school climate creates a condition that makes teachers form a strong belief that they will be more satisfied in doing their work within such an environment. Thus, the result provides important practical implications that policy makers, school leadership, and all stakeholders can increase teacher satisfaction through the creation of a positive, supportive, and collaborative school climate. An atmosphere in the school reflects the values, beliefs, opinions, and code of conduct that governs the interaction among teachers, students, administrators, parents, and all actors in the school. In addition, training for school leaders in participative leadership will enable school leaders to involve teachers in decision-making and finding solutions to the schools' problems to improve teachers' job satisfaction (Carpenter, 2015; Al Ahbahi, 2019).

Secondly, the no significant association between teacher autonomy and the two aspects of teachers' job satisfaction (environment and profession) suggests that in the context of the UAE, a focus on increasing teachers' autonomy may not significantly affect teachers' overall job satisfaction. Moreso, this is one of the few studies, if not the only study, to explore the relationship between teacher autonomy and job satisfaction among teachers in the UAE. As reported in the existing literature that teacher autonomy is the core of teachers' professional power in school management and activities. When teachers feel their power needs are met and their professional contributions recognized, they will show a higher level of satisfaction in their job (Liu et al., 2021; Yao, 2014). Through empirical research, autonomy has emerged as a psychological need, and according to the SDT, it forms the basis for individuals' self-motivation and personality integration, as well as the environmental conditions that facilitate the positive processes (Deci & Ryan, 2000). Therefore, the findings of the current study suggest that this innate psychological need is not met among the UAE teachers who participated in the TALIS 18 survey. Accordingly, policymakers and school administrators should consider exploring ways to increase decision-making opportunities for teachers in the UAE to boost overall teacher job satisfaction.

Limitations

The current study has several limitations. First, the TALIS 2018 data were self-reported, so the relationships examined among behavioral and contextual factors reflect teachers' perceptions rather than objective measures. Second, like all secondary data analyses, this study is limited by the variables available in the dataset. Third, the cross-sectional design used in this study provides no evidence of causality among variables such as school climate, teacher autonomy, and teacher job satisfaction. Therefore, future research should employ causality-oriented designs (Liu et al. 2021; Niu et al. 2023). Finally, future studies should also explore how teacher-level and school-level factors influence teachers' job satisfaction.

Acknowledgments

We appreciate the OECD for making the TALIS 18 data publicly available on its website.

Authors contributions

Not Applicable.

Funding

No funding.

Competing interests

Not applicable.

Informed consent

Not applicable.

Ethics approval

The Publication Ethics Committee of the Redfame Publishing.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that supports the findings of this study are available are publicly available OECD website.

Data sharing statement

No additional data are available.

References

Al Ahbabi, N. M. (2019). Key stakeholders' perceptions about school improvement strategies in UAE. *Improving Schools*, *22*(2), 113-129. https://doi.org/10.1177/1365480218817983

AL-Jadidi, N. A. A. (2022). Job satisfaction among early childhood female teachers and its impact on professional commitment. *Pegem Journal of Education and Instruction. 12*(3), 119-129. https://doi.org/10.47750/pegegog.12.03.14

Al-Jamal, K. (2013). Instructional leadership behaviors: The case of Lebanese principals. *Global Advanced Research Journal of Education Research and Review, 2*(9), 181-189.

Asparouhov, T., & Muthén, B. (2010, September). *Bayesian analysis of latent variable models using Mplus.*

Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress*, *22*(3), 187-200. https://doi.org/10.1080/02678370802393649

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory.Prentice-Hall.

Carpenter, D. (2015). School culture and leadership of professional learning communities. *International Journal of Educational Management*, *29*(5), 682-694. https://doi.org/10.1108/IJEM-04-2014-0046

Danielson, C. (2007). Enhancing professional practice: A framework for teaching (2nd). Alexandria, ASCD.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behaviour. *Psychology Inquiry, 11*(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01

Dickson, M. (2013). School improvement in Abu Dhabi, United Arab Emirates: Asking the 'expert withnesses'. *Improving Schools, 16*, 272-284. https://doi.org/10.1177/1365480213501060

Dincer, A. (2019). Language teacher autonomy in Turkish EFL context: Relations with teachers' autonomy and job satisfaction levels. *I-Manager's Journal on English Language Teaching, 9*(2), 11-25. https://doi.org/10.26634/jelt.9.2.15470

Dou, D., Devos, G., & Valcke, M. (2017). The relationships between the school autonomy gap, principal leadership, teachers' job satisfaction, and organizational commitment. *Educational Management Administration and Leadership*, *45*(6), 959-977. https://doi.org/10.1177/1741143216653975

El Saadi, D. H. (2017). The contribution of UAE inspection framework as a quality assurance tool for school transformation and performance improvement. [Doctoral dissertation, British University in Dubai]. Semantic Scholar. https://pdfs.semanticscholar.org/930a/a0a9f117679be76528145f40353864f19f9c.pdf

Ertem, H, Y,. Arslan, A., & Ozenir Uren, E. (2021). The role of teacher autonomy and school climate on goal orientations for teaching. *Psycho-Educational Reviews*, *10*(2), 203-212. https://doi.org/10.52963/PERR_Biruni_V10.N2.14

Fang, J., & Qi, Z .(2023). The influence of school climate on teachers' job satisfaction: The mediating role of teachers' self-efficacy. *PLoS ONE, 8*(10), 1-26. e0287555. https://doi.org/10.1371/journal.pone.0287555

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*, 39-50. https://doi.org/10.1177/002224378101800104

Fradkin-Hayslip, A. (2021). Teacher autonomy, motivation, and job satisfaction: Perceptions of elementary school teachers according to self-determination theory. *Elementary Education Online*, *20*(2), 198-205. https://doi.org/10.17051/ilkonline.2021.02.25

Friedman, I. A. (1999). Teacher-perceived work-autonomy: The concept and its measurement. *Educational and Psychological Measurement, 59*(1), 58-76. https://doi.org/10.1177/0013164499591005

Gaad, E. (2015). The teacher assistant programme across the UAE: Empower to include. *Journal of International Education Research, 11*(1), 57-62. https://doi.org/10.19030/jier.v11i1.9100

Gagne, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior, 26*(4), 331-362. https://doi.org/10.1002/job.322

Grundy, S. (1994). Action research at the school level: Possibilities and problems. *Educational Action Research, 2*(1), 23-37. https://doi.org/10.1080/09650799400200007

Guay, F. (2022). Applying self-determination theory to education: Regulation types, psychological needs, and autonomy supporting behaviors. *Canadian Journal of School Psychology, 37*(1), 75-92. https://doi.org/10.1177/08295735211055355

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Prentice-Hall.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing Discriminant validity in variance-based structural equation modeling. *J. Acad. Mark. Sci*., *43*, 115-135. https://doi.org/10.1007/s11747-014-0403-8

Hoque, K. E., Wang, X., Qi, Y., & Norzan, N. (2023). The factors associated with teachers' job satisfaction and their impacts on students'achievement: .A review (2010–2021). *Humanities and Social SciencesCommunications*, *10*, 177. https://doi.org/10.1057/s41599-023-01645-7

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Ivancevch, dkk. (2007). Perilaku dan Manajemen organisasi. Edisi Ketujuh, Alih Bahasa: Gina Gania. Jakarta: Erlangga

Kara, M., & Bozkurt, B. (2022). The examination of the relationship between teacher autonomy and teacher leadership through structural equation modelling. *International Journal of Contemporary Educational Research, 9*(2), 299-312. https://doi.org/10.33200/ijcer.1037128

Katsantonis, I. G. (2019). Investigation of the impact of school climate and teachers' self-efficacy on job satisfaction: A cross-cultural approach. *European Journal of Investigation in Health, Psychology and Education,10*(1), 119-133. https://doi.org/10.3390/ejihpe10010011

Keddie, A., MacDonald, K., Blackmore, J., & Gobby, B. (2023). Teacher professional autonomy in an atypical government school: matters of relationality and context. *Oxford Review of Education*, *50*(3), 434-449. https://doi.org/10.1080/03054985.2023.2236941

Kengatharan, N. (2020). The effects of teacher autonomy. Student behaviour and student engagement on teacher job satisfaction. *Educational Sciences: Theory and Practice, 20*(4), 1-15. https://doi.org/10.12738/jestp.2020.4.001

Kline, R. B. (2016). *Principles and practices of structural equation modelling* (4th ed.) New York: Guilford Press.

Koustelios, A. D., Karabatzaki, D., & Kousteliou, I. (2004). Autonomy and job satisfaction for a sample of Greek teachers. *Psychological Reports, 95*, 883-886. https://doi.org/10.2466/pr0.95.3.883-886

Kraft, M. A., & Falken, G. T. (2020). Why school climate mathers for teachers and students. *National Association of Boards of Education*, 33-36.

Liu, S., Keeley, J. W., Sui, Y., &Sang, L. (2021). Impact of distributed leadership on teacher job satisfaction in China. The mediating roles of teacher autonomy and teacher collaboration: *Studies in Educational Evaluation*, 71, 1-8. https://doi.org/10.1016/j.stueduc.2021.101099

Liou, P. Y. (2021). Students' attitudes toward science and science achievement: An analysis of the dif ferential effects of science instructional practices. *Journal of Research in Science Teaching, 58*(3), 310-334. https://doi.org/10.1002/tea.21643

Lok, P., & Crawford, J. (2003). The effect of organizational culture and leadership style on job satisfaction and organizational commitment: A cross-national comparison. *Journal of Management Development*, *23*(4), 321-338. https://doi.org/10.1108/02621710410529785

Luthans, F. (2008). Perilaku Organisasi. Edisi Kesepuluh. Alih Bahasa: Vivin Andika Yuwono, dkk. Yogyakarta: Andi.

Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education, 7*(2), 133-144. ISSN 1477-8785. https://doi.org/10.1177/1477878509104318

Narayanan, M., Shields, A. L., & Delhagen, T. J. (2024). Autonomy in the spaces: teacher autonomy, scripted lessons, and the changing role of teachers. *Journal of Curriculum Studies, 56*(1), 17-34, https://doi.org/10.1080/00220272.2023.2297229

Niu, J., Fan, C., Wang, Z., & Chen, Y. (2023). Multilevel analysis of factors teacher job satisfaction across Japan and South Korea: Evidence from TALIS 2018. *SAGE Open*, 1-14. https://doi.org/10.1177/21582440231178533

Matsumoto, A. (2019). Literature review on education reform in the UAE. *International Journal of Educational Reform, 28*(1), 4-23. https://doi.org/10.1177/1056787918824188

Muthen, L. K., & Muthen, B. O. (1998-2019). Mplus (Version 8.3) [Computer software]. Muthen and Muthen.

Nalipay, J. N. (2023). What aspects of school climate matter most to Asian teachers' job satisfaction and well-being? Evidence from the TALIS 2018. *Teachers College Record, 125*(3), 264-288. https://doi.org/10.1177/01614681231171804

Kengatharan, N. (2020). Cynicism, autonomy and Job satisfaction: Evidence from teaching profession. *International Journal of Management in Education, 14*(5), 471-493. https://doi.org/10.1504/IJMIE.2020.10024256

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.

OECD. (2019). TALIS 2018 conceptual framework. Retrieved from https://www.oecd-ilibrary.org/education/talis-2018-results-volume-i_1d0bc92a-en

OECD. (2019). TALIS 2018 technical report. Retrieved from https://www.oecd.org/education/talis/TALIS_2018_Technical_Report.pdf

Parker G (2015). Postmodernist perceptions of teacher professionalism: A critique. *Curriculum Journal, 26*(3), 452-467. https://doi.org/10.1080/09585176.2014.992920

Pearson, L. C., & Moomaw, W. (2005). The relationship between teacher autonomy and stress,work satisfaction, empowerment, and professionalism. *Educational Research Quarterly, 29*(1), 37-53.

Perie, M., & Baker. D. P. (1997). Job satisfaction among America's teachers: Effects of workplace conditions, background characteristics, and teacher compensation. NCES 97-XXX. Washington, DC: U.S. Department of Education.

Rudasill, K. M., Snyder, K. E., Levinson, H., & Adelson, J.L. (2018). Systems view of school climate: a Theoretical Framework for Research. *Educational Psychology Review,30*, 35-60. https://doi.org/10.1007/s10648-017-9401-y

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness.* The Guilford Press. https://doi.org/10.1521/978.14625/28806

Salokangas, M., Wermke, W., & Harvey, G. (2020). Teachers' autonomy deconstructed: Irish and Finnish teachers' perceptions of decision-making and control. *European Educational Research Journal, 19*(4), 329-350. https://doi.org/10.1177/1474904119868378

Sergiovanni, T. J., & Starratt, R. J. (2002). Supervision: A redefinition (7th ed.). New York: McGraw-Hill Inc Stearns, E., Banerjee, N., Moller, S., and Mickleson, R. A. (2015). The role of collective pedagogical teacher culture in teacher job satisfaction. *Teacher College Record*, *117*, 1-32. https://doi.org/10.1177/016146811511700803

Spranza, J. S. (2016). Globalization of higher education in United Arab Emirates. *Georgia Journal of College Student Affairs, 32(*1), 1-5.https://doi.org/10.20429/gcpa.2016.010104

Türker, Y., & Kahraman, U. (2021). School climate and self-efficacy as predictors of job satisfaction. *Journal of Theoretical Educational Science*, *14*(4), 548-569. https://doi.org/10.30831/akukeg.901457

Wang, M. T., & Degol, J. (2016). School Climate: a Review of the Construct, Measurement, and Impact on Student Outcomes. *Educ Psychol Rev 28*, 315-352. https://doi.org/10.1007/s10648-015-9319-1

Waruwu, B. (2015). The correlation between teachers' perceptions about principal's emotional intelligence and organizational climate and job satisfaction of the teachers of the state senior high school in Gunungsitoli Nias, Indonesia. *Journal of Education and Practice*, *6*(13), 142-148. ISSN 2222-1735.

Wermke, W., & Salokangas, M. (2015). Autonomy in education: theoretical and empirical approaches to a contested concept. *Nordic Journal of Studies in Educational Policy*, *2015*(2). https://doi.org/10.3402/nstep.v1.28841

Westheimer, J. (2008). Learning among colleagues: Teacher community and the shared enterprise of education. In M. Cochran-Smith, S. Feiman-Nemser, and J. Mclntyre (Eds), Handbood of research on teache education: Enduring questions in changing contexts (pp. 756-784). Reston: Association of Teacher Educators. https://doi.org/10.4324/9780203938690-86

Worth, J., & Van den Brande, J. (2020). *Teacher autonomy: How does it relate to job satisfaction and retention?* Slough: NFER

Wilches, J. (2007) Teacher autonomy: A critical review of the research and concept beyond applied linguistics. *Íkala, revista de lenguaje y cultura, 12*(18), 245-275. https://doi.org/10.17533/udea.ikala.2720

Yao, J. H. (2014). A study of different characteristics of teaching autonomy of primary and secondary school teachers. *Teacher Education Research*, *6*, 31-39. https://doi.org/10.1016/j.tate.2013.12.002

Yorulmaz, Y. I., Colak, I., & Altinkurt, Y. (2017). A meta-analysis of the relationship between teachers' job satisfaction and burnout. *Eurasian Journal of Educational Research*, *71*, 175-19. https://doi.org/10.14689/ejer.2017.71.10

Yorulmaz, Y. İ., Çolak, İ., & Çiçek-Sağlam, A. (2018). The relationship between teachers' structural and psychological empowerment and their autonomy. Egitim Bilimleri Arastirmalari Dergisi. *Journal of Educational Science Research, 8*(2), 81-96. https://doi.org/10.22521/jesr.2018.82.3

You, J., Kim, J., & Lim, D. H. (2017). Organizational Learning and Change: Strategic Interventions to Deal with Resistance. In P. Ordoñez de Pablos & R. Tennyson (Eds.), *Handbook of Research on Human Resources Strategies for the New Millennial Workforce* (pp. 310-328). IGI Global Scientific Publishing. https://doi.org/10.4018/978-1-5225-0948-6.ch015

Zakariya, Y. F. (2020). Effects of school climate and teacher self-efficacy on job satisfaction of mostly STEM teachers: A structural multigroup invariance approach. *International Journal of STEM Education, 7*(1), 1-12. https://doi.org/10.1186/s40594-020-00209-4

Zheng, X., Yin, H., & Li, Z. (2018). Exploring the relationships among instructional leadership, professional learning communities and teacher self-efficacy in Chine. *Educational Management Administration and Leadership, 47(*6), 843-859. https://doi.org/10.1177/1741143218764176