

The Relationship Between School Climate and Student Self-efficacy: Evidence from High Schools

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Abstract

This study seeks to evaluate the school environment and the self-efficacy levels of high school students and investigate the relationship between the school environment and their perceptions of self-efficacy. The research encompassed 1492 high school pupils. We employed MANOVA, correlation, and hierarchical regression to analyze the data. The results show that students' perceptions of self-efficacy vary depending on their school type. Moreover, the results demonstrate that the students' perceptions of their self-efficacy remained unchanged regardless of their progressing grade level. Specific sub-factors of school climate are associated with particular sub-factors of self-efficacy, and these variables mutually predict each other. Regarding the findings, we provide recommendations about the school climate and individuals' self-perceptions of their capabilities.

Keywords: School climate, self-efficacy, supportive teacher behaviours, academic self-efficacy.

Okul İklimi ve Öğrenci Öz-yeterliği Arasındaki İlişki: Liselerden Yansımalar

Öz

Bu çalışmanın amacı lise öğrencilerinin okul iklimine ilişkin algıları ile öz-yeterlik düzeylerini belirlemek ve okul iklimi ile öz-yeterlik algıları arasındaki ilişkiyi ortaya koymaktır. Çalışmaya 1492 lise öğrencisi katılmıştır. Verilerin analizinde MANOVA, korelasyon ve hiyerarşik regresyon analizleri kullanılmıştır. Araştırma bulguları öğrencilerin öz-yeterlik algılarının okul türüne göre farklılık gösterdiğini ortaya koymaktadır. Ayrıca sonuçlar, öğrencilerin öz-yeterlik algılarının sınıf düzeyi arttıkça değişmediğini göstermektedir. Bazı okul iklimi alt faktörleri bazı öz yeterlik alt faktörleri ile ilişkilidir ve bu değişkenler birbirlerini yordamaktadır. Araştırmanın bulgularına ilişkin olarak okul iklimi ve öz-yeterlikle ilgili öneriler sunulmuştur.

Anahtar kelimeler: Okul iklimi, öz-yeterlik, destekleyici öğretmen davranışları, akademik öz-yeterlik.

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INTRODUCTION

The school climate has been a topic of discussion among educators for the past century. Derived from the organizational climate definition, school climate can be described as a set of internal characteristics that distinguish an organization from others and affect the behaviours of individuals within the school (Gilmer, 1968; Hoy, 1997), measurable indicators that emerge based on the common perception of people working together and affect human behaviours (Litwin & Stringer, 1968), features that enable people to differentiate a school from other organizations (Hoy, Tarter, & Kottkamp, 1991).

School climate can be described as open, lively, warm, accommodating, informal, impersonal, hostile, rigid and closed (Lunenburg & Ornstein, 2013). School climate expresses the quality and character of school life. In this context, school climate is determined by how people experience school life, including norms, goals, values, interpersonal connections, teaching and learning methods, and organizational structures (Cohen et al., 2009). School climate is one of the dimensions used to explain the organization and consists of groups and interpersonal relationships (Bursalioglu, 2015). A sustainable, positive school climate supports the development and learning of young people in a democratic society, which is necessary for a productive and high standard of living (Cohen et al., 2009). Each student may uniquely experience the school climate. While a student with a high academic achievement regards school as a safe place due to her or his meaningful engagement with teachers, those with a low academic profile may still feel that the school is safe because of positive peer relationships (Capp et al., 2023). In this regard, how students feel and behave, which refers to self-efficacy, might be related to the school climate.

Self-efficacy is people's belief in their ability to plan and carry out the courses of action they need to manage future situations. Self-efficacy beliefs guide how people feel, how they think, how they motivate themselves, and how they behave (Bandura, 1977; 1994). Self-efficacy affects task selection, effort, struggle, and achievement (Schunk & Pajares, 2002). Students with high self-efficacy perception are more ready to learn, study harder, struggle longer against the difficulties they face, and exhibit higher levels of achievement (Linnenbrink & Pintrich, 2003). Several important factors affecting self-efficacy in schools include students' beliefs in the quality of education (Demirdağ, 2015), performance achievement and verbal persuasion (Arslan, 2012), and measurement of process-based competence (van Dinthera et al, 2014). Self-efficacy can be affected by environmental and behavioural occurrences within the school setting, which are elements of the school climate (Bandura et al., 2001; Høigaard et al., 2015). The dimensions of interpersonal relationships and belonging to the school, which constitute the sub-factors of school climate, are significantly related to students' self-efficacy (Zysberg & Schwabsky, 2020). Therefore, this study aims to test the previous research focusing on the relationship between school climate and self-efficacy of high school students in a context in which the education system is highly centralized. Moreover, the research recruiting high school students from different school types (academic, vocational, general) could also provide new lenses within a strictly centralized education system.

Relevant Literature

School Climate

Infrastructure, social composition, and coherence are the best concepts to define school climate (Van Houtte & Van Maele, 2011). Teachers in schools with an open climate are in harmony with themselves and administrators. In open climates, colleague solidarity is high, and employees are loyal to their jobs (Hoy & Miskel, 2015). In another classification, healthy organizational climate, schools can successfully cope with their environment and use their resources to achieve their goals. Schools with a healthy climate can withstand inappropriate community and parental pressure. In such organizations, technical, management, and educational dimensions coexist (Hoy & Hannum, 1997). School climate is also crucial for students to feel emotionally and personally safe (Thapa et al., 2013). In school climates lacking conducive norms, structures, and connections, students are more prone to encountering violence, peer bullying, and disciplinary issues, which, therefore, result in increased absenteeism and diminished academic performance (Astor et al., 2010).

School leaders and teachers must define the norms, values, and goals that shape instruction and learning as the positive school climate improves students' learning skills (Thapa et al., 2013). Various studies examining the relationship between school climate and students' academic achievement (Brand et al., 2003; Cook et al., 2000; Freiberg, 1999; MacNeil et al., 2009; Sherblom et al., 2006; Stewart, 2008) reveal significant results. Moreover, Hoy et al. (1998) emphasize that school climate positively affects student achievement during the educational process and that these positive effects continue for many years.

School climate has attracted the attention of educational researchers in Türkiye, addressing the relationship between organizational climate and organizational commitment (Yüceler, 2009), school climate and university exam success (Topal, 2001), the relationship between school climate and student bullying behaviours (Çalık et al., 2009), teacher autonomy and school climate (Çolak & Altinkurt, 2017), school governance and school climate (Yüner & Burgaz, 2019). Ayık and Savaş (2014) revealed noteworthy positive correlations between the supporting actions of principals and the dimensions of collaborative behaviours exhibited by teachers in the school climate. Other studies present positive school climate contributes to teachers' more tolerant approach to their students (Bayram & Aypay, 2012), positive school climate has an important role in helping students acquire universal values (Bektaş et al., 2014), teachers and students in smaller schools have a more positive school climate perception (Çağlayan, 2014; Karakütük et al., 2014).

A significant relationship exists between successful teacher behaviour in emotional relationships and the school's success in the university entrance exam (Topal, 2001). A positive school climate reduces the likelihood of students' bullying behaviours (Çalık et al., 2009). Another research suggests that there is also a positive and significant relationship between the 'supportive teacher behaviours' (STB) and 'achievement orientation' (AO) factors of school climate and academic achievement (Bahçetepe & Giorgetti, 2015). In current literature, several studies show that school climate and self-efficacy are predictors of academic achievement (Author(s); Cook, Murphy, & Hunt, 2000; Freiberg, 1999; Wittrose, 2003; Zimmerman, 2000).

Self-Efficacy

Lunenburg and Ornstein (2013) define self-efficacy as an individual's belief that a person can do a certain job. In this context, self-efficacy consists of three dimensions. These dimensions are magnitude, which refers to the degree of difficulty of the task; resilience, a way of characterizing magnitude; and generality, the degree to which expectation is generalized across conditions (Lunenburg & Ornstein, 2013). The magnitude dimension of self-efficacy refers to a series of steps related to the increasing difficulty of a task that an individual believes he/she can do. That dimension reflects that a person who avoids smoking believes that this is only possible in non-smoking environments and perceives environments where people smoke as a threat. The resilience dimension includes the individual's determination to perform an action and to endure the difficulties encountered in performing the target action. Generality dimension is the extent to which an individual's experiences of success or failure affect his/her self-efficacy expectations (Maddux, 2002). In this context, self-efficacy criteria focus on performance skills rather than personal characteristics, including physical and psychological dimensions (Zimmerman, 2000).

Self-efficacy is not innate but acquired (Bandura, 1994). A baby coming into the world learns through observation that actions create effects, and only when it starts to control the environment it starts to be more sensitive to its environment. However, the fact that actions produce effects is insufficient for an infant to develop a sense of efficacy. Self-perception begins when the infant involves himself/herself in the action. This process develops through social and individual experiences. According to Bandura (1994), another factor that creates self-efficacy is the family environment and the child's interaction with the family. Developing sensory-motor skills is one of the first steps in developing an infant's self-efficacy perception. In addition to the family, peer interaction plays an important role in developing self-efficacy. Children's interaction with peers who have interests similar to their own develops their self-efficacy. Another important factor affecting self-efficacy is school. School is where students' cognitive competencies emerge and where they are first socially accepted. Students acquire cognitive skills, knowledge, and problem-solving skills at school and prepare to be included in society. Therefore, their cognitive competencies and knowledge levels are constantly tested at school. As children acquire cognitive skills, they develop their perceptions of intellectual competence.

Several studies have found a strong connection between students' belief in their ability to succeed (self-efficacy beliefs) and specific personal characteristics that affect their ability to regulate their behaviour, such as setting goals, exercising self-control, and identifying effective strategies for learning (Zimmerman & Bandura, 1994). Higher levels of self-efficacy have been shown to lead to more outstanding academic achievement (Wittrose, 2003; Zimmerman, 2000). Additionally, self-efficacy beliefs contribute to students' reading skills (Walker, 2003) and can predict their achievement goals (Diseth, 2011). Furthermore, a significant relationship exists between self-efficacy and academic success in mathematics (Galla et al., 2014; McGeown, 2014). Factors such as indirect life experiences and verbal persuasion can influence how individuals perceive their self-efficacy concerning learning and performance (Arslan, 2012). Additionally, there is a positive correlation between self-efficacy and the experience of anxiety when it comes to writing (Arslan, 2018). Hymel et al. (1996) found that students' level of interest and involvement in school is influenced by the extent to which the school environment

fosters feelings of autonomy and belonging. These feelings, in turn, impact students' self-efficacy and academic performance. The social interactions among school staff significantly impact the school's overall culture and atmosphere. The effectiveness of the school as a social system is contingent upon the school climate established by the faculty. A school climate in which educators have confidence in pupils' academic success fosters a good climate and stimulates student motivation. To clarify, the school environment refers to the shared values and ambitions that arise from social interactions, and it impacts students' academic accomplishment and their perceptions of ASE (Bandura, 1994).

Favourable learning environments, as a prominent component of school climate, positively impact student achievement (McNeil et al., 2009). Students with low self-efficacy are more likely to be at risk of dropping out of school prematurely (Alivernini & Lucidi, 2011). Hence, the inclusion of self-efficacy in this study was justified by its significant role and school climate. The research on the relationship between school climate and self-efficacy can significantly contribute to improving school climate. In this context, the study aims to examine the effect of school climate on students' self-efficacy and to put forward suggestions. The research questions are provided below.

1. What is the level of students' school climate and self-efficacy?
2. Do school type and grade levels predict students' self-efficacy?
3. Is there a statistically significant relationship between students' self-efficacy and school climate?
4. Does school climate predict students' self-efficacy?

METHOD

Research Design

This study used correlational research to investigate the relationship between two or more variables (Karasar, 2005). We employed a simple random sampling method consistent with our analysis techniques.

Population and sample

The data were collected from students in all grades of high school (9-12) studying in a district of the Black Sea Region in Türkiye in the 2019-2020 academic year by using an electronic form after obtaining the necessary permissions. The types of schools are Science High Schools (SHS), Anatolian High Schools (AHS), and Vocational High Schools (VHS). While the curricula of SHS and AHS focus on academic success and preparing students for university entrance exams, the curricula of VHS focus on training vocational staff for semi-qualified worker needs. The distribution of the students in the sample according to school type, grade, and gender is presented in Table 1 and Table 2.

Table 1. The Students Participating in the Study According to School Types

School Type	N	%
SHS	177	11.9
AHS	810	54.3
VHS	505	33.8
Total	1492	100

Table 2. The Students Participating in The Study According to Their Grade Levels

Class Level	N	%
9. grade	421	28.2
10. grade	358	24
11. grade	372	24.9
12. grade	341	22.9
Total	1492	100

Data Collection Tools

School Climate Scale

After conducting a confirmatory factor analysis (CFA) on the research data, it was confirmed that the "School Climate Scale" factor structure is appropriate for the sample studied. The results of the CFA indicated that $\chi^2 (202) = 1167.3$, with a Comparative Fit Index (CFI) of 0.91, a Tucker-Lewis Index (TLI) of 0.90, a Root Mean

Square Error of Approximation (RMSEA) of 0.057, and a Standardized Root Mean Square Residual (SRMR) of 0.06. Additionally, the scale items effectively predicted the relevant factor, with standardized Beta values ranging from 0.38 to 0.79 ($p < 0.05$). The scale consists of three sub-factors: STB (supportive teacher behaviours), SLE (safe learning environments) and SO (success orientation).

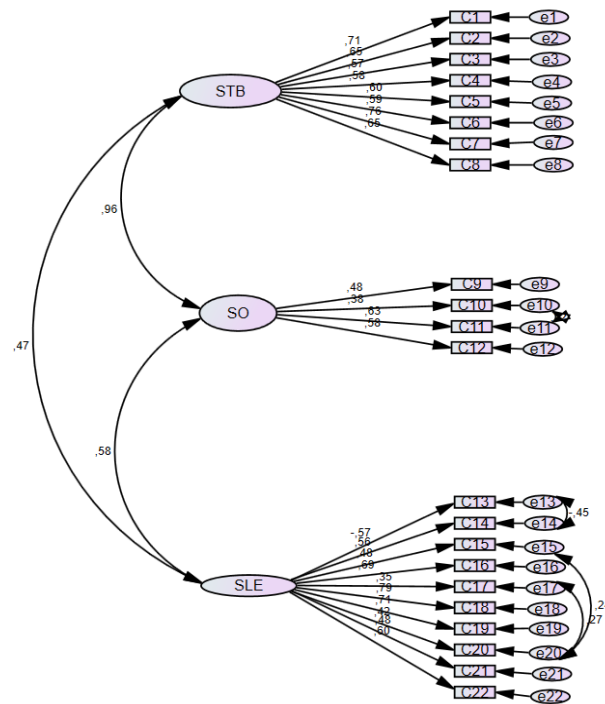


Figure 1. CFA Results of School Climate Scale

Self-Efficacy Scale

The researchers used the "self-efficacy for children" scale developed by Muris (2001) (ASE, ESE, and SSE) and adapted it into Turkish by Telef and Karaca (2012). The scale has three sub-factors: ASE (academic self-efficacy), SSE (social self-efficacy) and ESE (emotional self-efficacy). It consists of 21 items on a 5-point Likert scale (1 = not at all and 5 = very good). The highest and lowest score range is between 105-21. The higher the score obtained from the scale, the higher the self-efficacy level of the students, while the lower score indicates that the self-efficacy level of the students is low. The Cronbach's alpha total reliability coefficient of the scale was .889. The reliability coefficient of the ASE sub-factor of the scale was .838; the reliability coefficient of the SSE sub-factor was .782; and the reliability coefficient of the ESE sub-factor was .799.

The Confirmatory Factor Analysis (CFA) results confirmed the "Self-Efficacy Scale for Children" factor structure based on the research data. The CFA yielded the following statistics: $\chi^2(187) = 1012.8$, CFI = 0.91, TLI = 0.90, RMSEA = 0.054, and SRMR = 0.045. The scale items significantly predicted the relevant factors, with standardized Beta values ranging from 0.44 to 0.74 ($p < 0.05$). The scale demonstrates a valid structure for the sample. Notably, the self-efficacy scale for children, adapted for both primary and high school students (Telef & Karaca, 2012), can also be applied to the sample group in this study. Based on the analysis, we can conclude that the scale demonstrates a valid structure for the sample (see Figure 2).

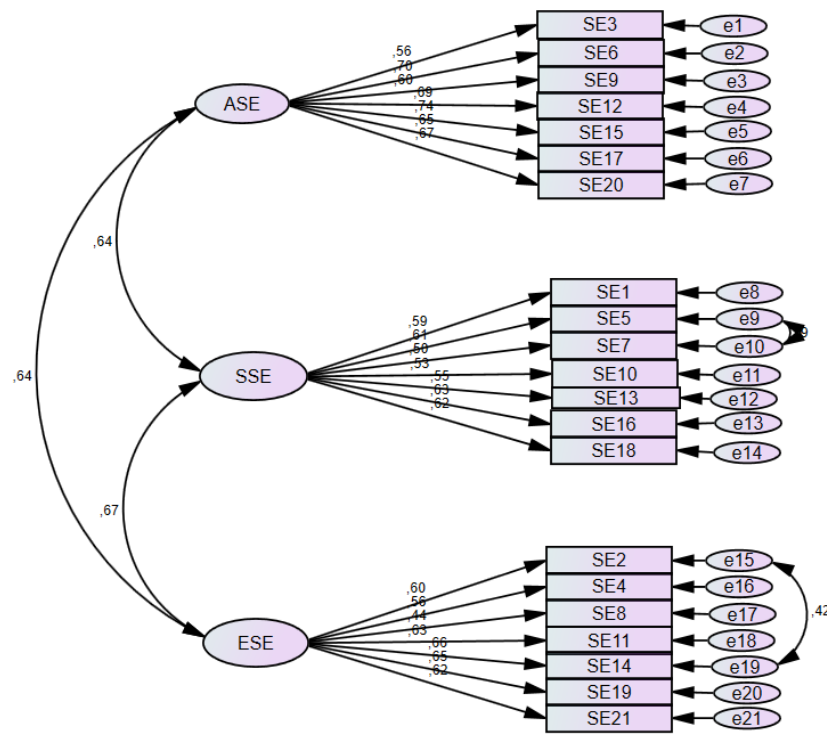


Figure 2. CFA Results of Self-Efficacy Scale

Data Collection Process

The researchers obtained the data through the Self-Efficacy for Children and School Climate Scale using electronic forms were used to collect the data.

Data Analysis

The data for the study was gathered using two scales: the "School Climate Scale," developed by Kurt and Çalık (2010), and the "Self-Efficacy for Children Scale," developed by Muris (2001). Telef and Karaca (2012) adapted the latter scale into Turkish. The study assessed the internal consistency reliability of the scales using Cronbach's Alpha, their construct validity and sample fit through Confirmatory Factor Analysis (CFA). CFA is a method used to test whether a defined and constrained construct holds as a valid model (Büyüköztürk, Şekercioglu, and Çokluk, 2012: 275).

For the CFA, the statistical software AMOS 21 (Arbuckle, 2012) was utilized to apply the Maximum Likelihood technique while considering modification indices. The following indices were used to evaluate the fit between the observed data and the factor structures: Standardized Root Mean Square Error (SRMR $\leq .08$), Root Mean Square Error of Approximation (RMSEA $\leq .10$), Tucker-Lewis Index (TLI $\geq .90$), and Comparative Fit Index (CFI $\geq .90$) (Hu & Bentler, 1999; Schermelleh-Engel, Moosbrugger, and Müller, 2003). Additionally, CFA analyses were performed on a bootstrap sample of 10,000 using the percentile bootstrap method.

Researchers first tested whether the data followed a normal distribution to determine the appropriate analysis method. This was assessed by examining the closeness of the mean, mode, and median values. These values were found to be very close in the data set, which supports the interpretation that the data may be normally distributed. Köklü et al. (2006) suggested that when the mean, mode, and median values are close together, they can serve as evidence for normal distribution. Similarly, Patel and Read (1996) indicated that the proximity of these values is a sign of normal distribution. Additionally, kurtosis and skewness values falling between +1 and -1 suggest that normal distribution is likely (Morgan et al., 2004). In the current data set, both the kurtosis and skewness values for school type and grade level variables were between +1 and -1, allowing us to conclude that the research data met the criteria for normal distribution.

To address the first question, the means and central distribution data of the sub-dimensions of the self-efficacy scale for children and the school climate scale are presented in Tables 3 and 4, categorized by school type and gender variables.

Table 3. Descriptive Statistics According To School Types

School Type	N	Variables	X	Mod	Median	SD	Skewness	Kurtosis
SHS	177	STB	3,6746	3,63	3,6250	,71322	-,204	-,694
		AO	4,0254	4,00	4,0000	,59596	-,326	-,727
		SLE	2,5876	2,50	2,6000	,27107	,008	-,058
		ASE	3,5707	3,43	3,5714	,72733	-,320	-,203
		SSE	3,7540	4,00	3,8571	,71566	-,341	-,489
		ESE	3,2809	3,14	3,2857	,79865	-,180	-,306
AHS	810	STB	8936	4,13	4,0000	,69945	-,500	,375
		AO	4,1716	4,50	4,2500	,56816	-,480	-,451
		SLE	2,8173	2,70	2,8000	,37277	,554	,003
		ASE	3,5196	3,57	3,5714	,72202	-,093	-,438
		SSE	3,7178	3,86	3,7143	,72040	-,250	-,589
		ESE	,3037	3,57	3,2857	,79086	-,141	-,457
VHS	505	STB	3,7775	3,75	3,8750	,72967	-,394	-,439
		AO	3,9990	4,00	4,0000	,68736	-,424	-,588
		SLE	2,9370	3,00	2,9000	,42417	,264	-,140
		ASE	3,3221	3,00	3,2857	,75604	,058	-,565
		SSE	3,6200	3,57	3,5714	,73017	-,086	-,544
		ESE	3,1903	3,00	3,1429	,79575	-,035	-,420

Table 4. Class Level Descriptive Statistics

School Type	N	Variables	X	Mod	Median	SD	Skewness	Kurtosis
9. grade	421	STB	3,8995	4,50	3,875	,67023	-,487	-,283
		AO	4,1871	4,50	4,2500	,58469	-,680	-,198
		SLE	2,7561	2,60	2,7000	,35909	,620	,176
		ASE	3,6143	3,14	3,5714	,73828	-,115	-,590
		SSE	3,6935	3,57	3,7143	,74938	-,268	-,514
		ESE	3,2650	3,14	3,2857	,79839	-,003	-,463
10. grade	358	STB	,8217	3,63	3,8750	,69448	-,454	-,289
		AO	4,1327	4,00	4,2500	,56959	-,303	-,613
		SLE	2,8874	2,70	2,7000	,41784	,344	-,171
		ASE	3,4093	3,43	3,4286	,70242	-,145	-,463
		SSE	3,6697	3,86	3,7143	,72362	-,148	-,640
		ESE	3,2051	3,00	3,1429	,81355	-,075	-,455
11. grade	372	STB	3,8683	4,38	3,8750	,69917	-,379	-,527
		AO	4,1327	4,00	4,2500	,56959	-,303	-,613
		SLE	2,8311	2,50	2,8000	,39192	,623	,195
		ASE	3,4493	3,43	3,4286	,66569	-,068	-,317
		SSE	3,7241	4,43	3,7143	,71423	-,333	-,370
		ESE	3,2822	3,00	3,2857	,76252	-,155	-,285
12. grade	341	STB	3,7039	3,75	3,7500	,79031	-,291	-,792
		AO	3,9399	4,25	4,0000	,70610	-,365	-,640
		SLE	2,8622	3,00	2,8000	,40235	,360	,096
		ASE	3,3293	2,57	3,4286	,78721	,009	-,616
		SSE	3,6656	3,57	3,7143	,70560	-,035	-,811
		ESE	3,2986	3,57	3,4286	,80435	-,224	-,506

Researchers employed MANOVA and ANOVA to address the second and third research questions. ANOVA was used for each dependent variable among the groups that showed significant differences following the MANOVA. A Bonferroni correction was applied to prevent Type I errors in the ANOVA analyses. This correction involves adjusting the significance level for the groups tested at the .05 level by dividing it by the number of groups analyzed (Field, 2005). Consequently, after applying the Bonferroni correction for school types, the significance level was set at .017, while for grade levels, it was set at .008.

In the MANOVA analysis, we applied Box's M to test the assumption that the covariance matrices of the dependent variables were equal across groups. The outcomes of the Box's M test for equality of variance-covariance matrices were as follows: for class, Box's M = 29.065, $F = 1.609$, $p > .05$; and for school type, Box's M = 9.883, $F = 0.820$, $p > .05$. Additionally, the variables satisfied the assumption of multivariate normality. The results of Levene's Test for the equality of variances among the groups for the dependent variables are presented in Table 5. Based on these results, we concluded that the equality of variances among the groups of dependent variables was confirmed.

Table 5. Levene's Test Table for Dependent Variables

	F	df1	df2	p
ASE	1,756	11	1480	,057
SSE	,52	11	1480	,932
ESE	,747	11	1480	,693

We conducted Levene's test ($p > .05$) to confirm the equality of variance of the dependent variables across groups. We performed a hierarchical regression analysis using the enter method for the fourth question. To ensure the appropriateness of the data for hierarchical regression, we checked the assumption of a linear relationship between the predictor and dependent variables, which was satisfied ($r > .30$ or $p < .05$). Additionally, we ensured that there was no significant multicollinearity among the variables ($r < .70$).

Furthermore, the Durbin-Watson analysis was conducted to assess autocorrelation among the variables. The Durbin-Watson value fell between 1 and 3, indicating that the estimation errors were independent and that the standard errors for the regression coefficients were acceptable. We also examined the absence of multicollinearity between predictors, confirming that Tolerance was more significant than .20 and VIF was less than 10, thus indicating no significant multicollinearity. Field (2005) states that Variance Inflation Factor (VIF) values should be less than 10, while tolerance values should be greater than 0.20. Additionally, Cook's distance is expected to range from 0 to 1, and Mahalanobis's distance should fall below the critical value of 2 (Field, 2005). All assumptions were checked, and no violations were found.

Hierarchical regression analysis was performed to exclude variables that did not fit the model. The histogram plots (Figures 3, 5 and 7) indicated an approximately normal distribution, while the P-P plots (Figures 4, 6 and 8) showed no significant deviations from the distribution lines. Additionally, the bootstrap technique, which involved resampling the data 1,000 times, was employed to confirm the data's significance level and reduce the risk of Type I errors (Hayes & Scharkow, 2013).

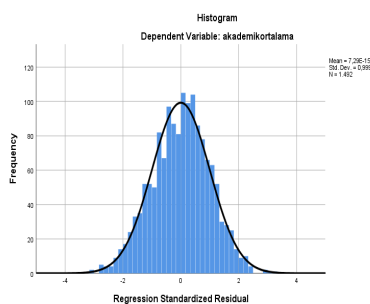


Figure 3. Histogram chart

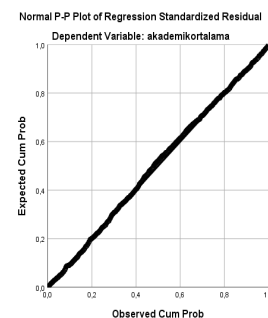


Figure 4. P-P Plot

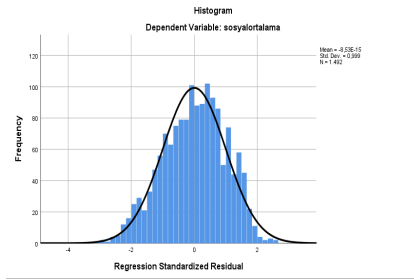


Figure 5. Histogram chart

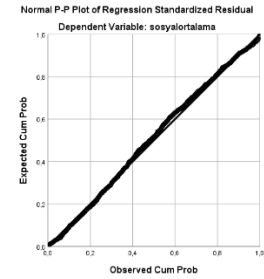


Figure 6. P-P Plot

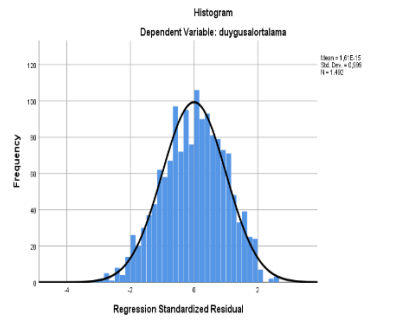


Figure 7. Histogram chart

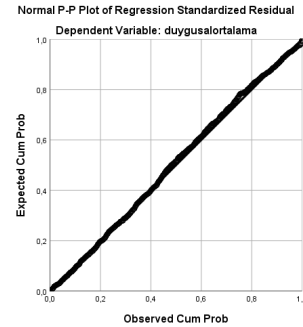


Figure 8. P-P Plot

Research and Publication Ethics

Approval from the Ethics Committee was obtained from the Bartın University Social and Human Sciences Ethics Committee on 08.07.2028 with protocol number 2020-SBB-0147. Data collection was conducted with permissions granted by the relevant official authorities. The research adhered to the ethical principles of scientific research and publication, ensuring that no data was falsified.

FINDINGS

To answer the first question of the study, the mean scores from the school climate and self-efficacy scale for children are presented in Tables 6 and 7.

Table 6. Self-efficacy Sub-dimensions MANOVA Result

	Wilks' Lambda	F	df	η^2
School type	,986	3,455	6	,007**
Grade level	,991	1,517	9	,003
STB	,976	11,871	3	,024*
AO	,937	33,071	3	,063*
SLE	,996	1,922	3	,004

* $p < 0,05$; ** $p < 0,01$

The sub-dimensions of self-efficacy displayed a statistically significant difference based on the type of school. An examination of the interaction between groups, as revealed by MANOVA, indicated a significant relationship between ASE and STB and AO and between SSE and STB and AO. Additionally, there was a significant relationship between ESE and AO.

Table 7. Self-Efficacy Sub-Dimensions Interaction Results Between Groups

Source of Variance	Dependent Variable	SST	df	MS	F	η^2
STB	ASE	14,662	1	14,662	34,790	,023**
	SSE	3,651	1	3,651	7,655	,006*
	ESE	3,471	1	3,471	5,867	,001
AO	ASE	36,726	1	36,726	87,145	,055**
	SSE	23,428	1	23,428	49,128	,032**
	ESE	18,003	1	18,003	30,428	,020**
SLE	ASE	,379	1	,379	,899	,001
	SSE	,710	1	,710	1,489	,001
	ESE	,860	1	,860	1,454	,001

* $p < 0,05$; ** $p < 0,01$

In line with the MANOVA results, ANOVA was conducted to reveal which variable caused the differences between school types. The ANOVA results are shown in Table 8.

Table 8. One-Way ANOVA Results for Self-efficacy Subscales

Dependent Variable	(I) School type	(J) School type	$\Delta\bar{x}$ (I-J)	SE
ASE	SHS	AHS	,05114	,06014
	SHS	VHS	,24859	,06332*
	AHS	VHS	,19745	,04110*
SSE	SHS	AHS	,03616	,05999
	SHS	VHS	,13400	,06315
	AHS	VHS	,09784	,04099
ESE	SHS	AHS	-,02280	,06583
	SHS	VHS	,09058	,06931
	AHS	VHS	,11338	,11338

* $p < 0,01$

Concerning the third question, Pearson correlation analysis revealed the following relationships:

- The relationship between STB and ASE was moderate, with a correlation coefficient of $r = 0.381$.
- STB and ESE's weak relationship was indicated by $r = 0.203$.
- The relationship between STB and SSE also showed a weak correlation, with a coefficient of $r = 0.240$.

For AO, the relationship with ASE was moderate, with $r = 0.426$. The correlation between AO and ESE was low, at $r = 0.236$, and the relationship between AO and SSE was also low, with $r = 0.290$. Additionally, the correlation between SLE and ESE was low, at $r = 0.057$, and there was no significant relationship between SLE and academic or social self-efficacy.

Table 9. The Relationship Between Self-Efficacy Scale And School Climate Scale Sub-Factors

	ASE	ESE	SSE
STB	,381**	,203**	,240**
AO	,426**	,236**	,290**
SLE	-,88	,057*	-,006

* $p < 0,05$; ** $p < 0,01$

As a result of the relationship between the mean scores obtained from the school climate scale and the mean scores obtained from the self-efficacy scale according to the Pearson correlation analysis results, a hierarchical regression analysis was conducted to determine the extent to which the mean scores obtained from the school climate scale predicted the mean scores of the self-efficacy scale. Variables that did not contribute were removed from the model. The findings are presented in Tables 10, 11, 12.

Table 10. Hierarchical Regression Analysis for ASE Variable

Independent Variables	R ²	B	SE	Beta	t	F
STB		1,968	,095	,381**	20,634	
AO		1,277	,116	,309**	11,049	
SLE		1,567	,174	-,052	8,983	
Model	,20					124,937**

* $p < 0,05$; ** $p < 0,01$

AO, STB, AO and SLE explain 20% of the model.

Table 11. Hierarchical Regression Analysis for SSE Variable

Independent Variables	R ²	B	SE	Beta	t	F
STB		2,759	,099	,240**	27,814	
AO		2,239	,122	,084**	2,551	
Model	,087					48,232**

* $p < 0,05$; ** $p < 0,01$

STB and AO were significant predictors, accounting for 8.7% of the SSE variable. However, since the SLE variable contributed nothing to the model, it was removed.

Table 12. Hierarchical Regression Analysis for ESE Variable

Independent Variables	R ²	B	SE	Beta	t	F
STB		2,400	,110	,203**	21,862	
AO		1,957	,136	,182**	14,391	
Model	,058					47,237**

* $p < 0,05$; ** $p < 0,01$

STB and AO significantly predicted 5.8% of the ESE variable. Since the SLE variable contributed nothing to the model, it was removed.

DISCUSSION & CONCLUSION

The results provide a comprehensive perspective on students' perceptions of school climate and self-efficacy across different school types and grade levels. When analyzing the mean scores, self-efficacy and school climate sub-factors were above average for all school types and grade levels. The second question's analysis indicated that students' self-efficacy sub-factors did not vary by grade level; however, significant differences were observed based on school type. Differences were noted between Science High School (SHS) and Vocational High School (VHS) students, as well as between Anatolian High School (AHS) and VHS students in the academic self-efficacy sub-dimension.

A notable finding is that while VHS students exhibit similar levels of social self-efficacy (SSE) and emotional self-efficacy (ESE) as SHS and AHS students, they perceive themselves as less academically competent than their SHS and AHS counterparts. Students studying at SHL and AHS focus primarily on academic achievement. Research has frequently shown a significant relationship between academic achievement and self-efficacy (Diseth, 2011; Wittrose, 2003; Zimmerman, 2000). The findings of this study indicated that SHS students,

who represent the most academically qualified group, demonstrated the highest levels of self-efficacy. AHS students scored in the middle range, while VHS (Vocational High School) students exhibited the lowest levels.

We conclude that one reason for the relatively low Academic Self-Efficacy (ASE) among Vocational High School (VHS) students is the different admission processes for secondary education between Science High Schools (SHS) and Anatolian High Schools (AHS). Additionally, we suggest that disparities in school curricula may contribute to this difference, as the curricula in SHS and AHS place a greater emphasis on academic achievement than VHS. Furthermore, the differences in self-efficacy perceptions between SHS and AHS students who tend to have higher academic achievement in this study compared to VHS students may not be due to the supportive role of the school climate. The findings of this study indicate that VHS students have a lower perception of self-efficacy than SHS students because of the school type, climate and the school's academic achievement. The current study reveals that most of the students in VHS in Türkiye cannot perform well compared to SHS and AHS students due to the education and curricula provided (Korkut & Babaoğlu, 2012). In VHS, the courses mainly focus on vocational issues, while SHS and AHS students study academic courses. However, the general academic evaluation is conducted via the same national tests for tertiary education and therefore, VHS students stay behind. Such a negative and unfair perception of academic success in society may influence VHS students in the Turkish context.

Our analysis revealed that the Social Self-Efficacy (SSE) and Emotional Self-Efficacy (ESE) scores did not show statistically significant changes based on school types and grade levels. While some studies suggest that older students tend to have higher SSE scores (Aktamış et al., 2016; Weidinger et al., 2017; Witt-Rose, 2003; Zimmerman & Martinez-Pons, 1986), our findings contradict this trend reported in the literature. The lack of difference between students' Social Self-Efficacy (SSE) and Emotional Self-Efficacy (ESE) as they progress through grade levels may be attributed to the educational system in Türkiye. This system may promote a strong focus on academic self-efficacy but does not adequately provide the learning environments necessary to enhance students' SSE and ESE. As a result, the expected positive development of SSE and ESE alongside increasing grade and age levels may not occur.

A moderate statistically significant relationship existed between Academic Self-Efficacy (ASE) and STB and AO. In contrast, a low-level relationship was found between SSE and the factors of STB and AO, while no relationship was determined between SLE and the self-efficacy scale factors. Following the correlation analysis, we proceeded with a hierarchical regression analysis. The results showed that STB and AO explained 20% of the variance in ASE, 8.7% in SSE, and 5.8% in ESE.

We suggest that STB and AO are important factors in predicting students' perceptions of self-efficacy. These findings align with Schunk's (1985) research, which suggests that verbally motivating students enhances their self-efficacy beliefs. Positive verbal feedback from teachers can significantly boost students' motivation and self-efficacy. Students want their voices heard (Høigaard et al., 2015). Furthermore, the frequency and consistency of the feedback provided also play a crucial role in improving self-efficacy perceptions (Schunk, 1983). Teachers' instructional practices impact students' self-efficacy perceptions (Zimmerman, 2000). Thus, STO must be considered for a healthy school climate.

The findings of this study align with existing literature. Teachers positively influence students' self-efficacy through supportive behaviours such as offering choices, encouraging strategic thinking, and fostering self-evaluation practices (Walker, 2003). Additionally, the school environment and teachers' attitudes significantly shape students' self-efficacy (Bandura, 1994). According to McNeil et al. (2009), a healthy school environment positively impacts student achievement.

The relationship between school success and self-efficacy suggests that supportive teacher behaviours (STB) can foster healthy school environments, positively influencing students' academic achievement. Alivernini and Lucidi (2011) highlighted that teachers' supportive actions significantly impact students' self-efficacy, and students with higher self-efficacy are less likely to drop out of school. Additionally, Bahçetepe and Giorgetti (2015) established a significant positive correlation between supportive teacher behaviours and academic orientation (AO) within the school climate and academic achievement. Therefore, a positive school climate characterized by supportive teacher behaviours enhances students' academic success. High academic achievement is often associated with elevated levels of academic self-efficacy.

Problems with students' self-efficacy can negatively impact their academic, social, and emotional lives. The average Academic Self-Efficacy (ASE) scores are above average across all school types. A key conclusion from the data is that students' ASE levels remain consistent even as their grade level increases. To address this issue

and boost ASE scores, we recommend carefully adjusting the difficulty of academic tasks assigned to students. Specifically, providing VHS students with tasks they believe they can complete may help enhance their ASE levels.

Students studying at SHS can benefit from learning environments and cognitive tasks that help them achieve success, reinforcing their belief in their abilities. By presenting tasks that align with students' cognitive, emotional, and motivational readiness levels—tailored to each school level and type—educators can enhance students' ASE levels, motivating them to tackle more challenging tasks. Conversely, failing to match tasks with students' readiness can lead to feelings of failure, boredom, and frustration. Teachers are encouraged to assess their students' cognitive readiness levels and design learning environments and tasks corresponding to those levels.

Students' SSE, which includes their ability to communicate with friends and teachers, express their problems, and collaboratively find solutions, was above average across all types of schools. Group activities such as cinema outings, excursions, and observations can be organized to further enhance and positively influence these SSE levels. Additionally, school administrators, teachers, and counsellors should identify students with lower communication skills within their groups and prioritize their involvement in these activities. Given the predictive role of STB and AO on academic self-efficacy, teachers must provide supportive educational opportunities. By including activities that enable students to experience success, teachers can help increase students' academic self-efficacy.

The current study has some limitations but includes a representative sample. Due to its quantitative design, in-depth implications are not possible. Qualitative or mixed-methods research could provide further insights and more detailed data for future researchers. Additionally, the study focused specifically on high school students' perceptions. Examining various school types could allow for comparisons between different educational institutions. Utilizing mediating variables may also enhance understanding of the relationship between self-efficacy and school climate.

Disclosure Statement

No potential conflict of interest was reported by the authors.

REFERENCES

- Aktamış, H., Özenoğlu Kiremit, H. & Kubilay, M. (2016). Öğrencilerin öz-yeterlik inançlarının fen başarılarına ve demografik özelliklerine göre incelenmesi [Investigation of students' self-efficacy beliefs according to science achievements and demographic characteristics], *Adnan Menderes Üniversitesi Eğitim Fakültesi Eğitim Bilimleri Dergisi*, 7(2), 1-10.
- Alivernini, F., & Lucidi, F. (2011). Relationship between social context, self-efficacy, motivation, academic achievement, and intention to drop out of high school: A longitudinal study. *The journal of educational research*, 104(4), 241-252.
- Arslan, A. (2012). İlköğretim öğrencilerinin öz-yeterlik inancı kaynaklarının öğrenme ve performansla ilgili öz-yeterlik inancını yordama gücü [The power of primary school students' sources of self-efficacy beliefs to predict self-efficacy beliefs about learning and performance]. *Kuram ve Uygulamada Eğitim Bilimleri*, 12(3), 1907-1920.
- Arslan, A. (2018). Ortaokul öğrencilerinin yazma kaygıları ve akademik öz-yeterlik inançlarının çeşitli değişkenler açısından incelenmesi [Investigation of secondary school students' reading anxiety and academic self-efficacy beliefs in terms of various variables]. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 18(3), 1286-1312. DOI: 10.31458/iejcs.399014
- Astor, R. A., Guerra, N., & Van Acker, R. (2010). How can we improve school safety research? *Educational Researcher*, 39, 69–78. doi:10.3102/0013189X09357619
- Ayık, A., Savaş, M., Çelikel, G., & Çelikel, G. (2014). Ortaöğretim Kurumlarında Görev Yapan Öğretmenlerin Okul İklimi Ve Örgütsel Güven Algıları Arasındaki İlişkinin İncelenmesi [A study of the relationship between school climate and organizational trust perceptions of teachers working in secondary education institutions]. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 11(27), 203-220.
- Bahçetepe, Ü., & Giorgetti, F. M. (2015). Akademik başarı ile okul iklimi arasındaki ilişki [The relation between the academic achievement and the school climate]. *İstanbul Eğitimde Yenilikçilik Dergisi*, 1(3), 83-101.

- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, 84, 191–215.
- Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71–81). New York: Academic Press. (Reprinted in H.Friedman [Ed.], *Encyclopedia of mental health*. San Diego: Academic Press, 1998).
- Bandura, A., Caprara, G. V., Barbaranelli, C., Gerbino, M., & Pastorelli, C. (2003). *Role of affective self-regulatory efficacy in diverse spheres of psychosocial functioning*. *Child Development*, 74, 769 –782. doi:10.1111/1467-8624.00567
- Bayram, F., & Aypay, A. (2012). İlköğretim okullarında müdür etkililiği, okul iklimi ve öğrenci kontrol ideolojileri arasındaki ilişki [The Relationship between school principal effectiveness, school climate and pupil control ideologies in elementary schools]. *Eğitimde Politika ve Analiz Dergisi*, 1(1), 49-63.
- Bektaş, F., Nalçacı, A., & Karadağ, E. (2014). İlköğretim Okulu Öğrencilerinin Algıladıkları Evrensel Değerlerin Bir Yordayıcısı Olarak Okul İklimi [School climate as a predictor of the universal values perceived by primary school students] . *Journal of Kirsehir Education Faculty*, 15(1).
- Bergman, M. M., & Scott, J. (2001). Young adolescents' wellbeing and health-risk behaviours: Gender and socio-economic differences. *Journal of adolescence*, 24(2), 183-197.
- Brand, S., Felner, R., Shim, M., Seitsinger, A., & Dumas, T. (2003). Middle school improvement and reform: Development of validation of a school-level assessment of climate, cultural pluralism and school safety. *Journal of Educational Psychology*, 95, 570–588. doi:10.1037/0022-0663.95.3.570
- Bursalıoğlu, Z. (2015). *Okul yönetiminde yeni yapı ve davranış*. Ankara: PegemA Yayıncılık.
- Capp, G. P., Sullivan, K. S., & Park, Y. (2023). School climate and resilience promoting characteristics: exploring latent patterns of student perceptions in California. *Oxford Review of Education*, 1-17.
- Cohen, J., McCabe, L., Michelli, N. M., & Pickeral, T. (2009). School climate: Research, policy, practice, and teacher education. *Teachers college record*, 111(1), 180-213.
- Cook, T. D., Murphy, R. F., & Hunt, H. D. (2000). Comer's school development program in Chicago: A theory-based evaluation. *American Educational Research Journal*, 37, 535–597. doi:10.3102/00028312037002535
- Çalık, T., Özbay, Y., Özer, A., Kurt, T. & Kandemir, M. (2009). İlköğretim okulu öğrencilerinin zorbalık statülerinin okul iklimi, prososyal davranışlar, temel ihtiyaçlar vecinsiyet değişkenine göre incelenmesi [Examination of primary school students' bullying status on the basis of the variables of school climate, pro-social behaviors, basic needs and gender] . *Kuram ve Uygulamada Eğitim Yönetimi*, 15(60), 555-576.
- Çağlayan, E. (2014). The Relationship between School Climate Perceptions and School Size and Status/Okul İklimi Algıları ile Okulun Büyüklüğü ve Statüsü Arasındaki İlişki. *e-Uluslararası Eğitim Araştırmaları Dergisi*, 4(4), 100-116.
- Çolak, İ., & Altınkurt, Y. (2017). Okul iklimi ile öğretmenlerin özerklik davranışları arasındaki ilişki [The relationship between school climate and teacher autonomy behaviors]. *Kuram ve Uygulamada Eğitim Yönetimi*, 23(1), 33-71.
- Damanik, E., & Aldridge, J. (2017). Transformational leadership and its impact on school climate and teachers' self-efficacy in Indonesian high schools. *Journal of School Leadership*, 27(2), 269-296.
- Demirdağ, S. (2015). Öğrencilerin Akademik Öz-Yeterliliklerinin Yetenek, Ortam ve Eğitim Kalitesine Göre Karşılaştırılması [Comparison of students' academic self-efficacy according to ability, environment and quality of education]. *Eğitim ve Öğretim Araştırmaları Dergisi*. 4 (1): 315-323, ISSN: 2146-9199.
- Diseth, Å. (2011). Self-efficacy, goal orientations and learning strategies as mediators between preceding and subsequent academic achievement. *Learning and Individual Differences*, 21(2), 191-195.
- Dunn-Wisner, K. A. (2004). *The relationship among self-efficacy, perceived school climate, and stress in middle school teachers*. Unpublished doctoral dissertation, Wayne State University.
- Field, A. (2005). *Discovering statistics using SPSS*. (2nd ed.) London: Sage.

- Freiberg, H. J. (Ed.). (1999). *School climate: Measuring, improving and sustaining healthy learning environments*. Philadelphia, PA: Falmer Press.
- Galla, B. M., Wood, J. J., Tsukayama, E., Har, K., Chiu, A. W., & Langer, D. A. (2014). A longitudinal multilevel model analysis of the within-person and between-person effect of effortful engagement and academic self-efficacy on academic performance. *Journal of School Psychology, 52*(3), 295-308.
- Gilmer, B. (1966). *Industrial psychology* (2nd ed.). New York: McGraw-Hill.
- Hosford, S., & O'Sullivan, S. (2016). A climate for self-efficacy: the relationship between school climate and teacher efficacy for inclusion. *International Journal of Inclusive Education, 20*(6), 604-621.
- Høigaard, R., Kovač, V. B., Øverby, N. C. & Haugen, T. (2015). Academic self-efficacy mediates the effects of school psychological climate on academic achievement. *School Psychology Quarterly, 30*(1), 64.
- Hoy, W. K., Hannum, J., & Tschannen-Moran, M. (1998). Organizational climate and student achievement: A parsimonious and longitudinal view. *Journal of School Leadership, 8*, 336-359.
- Hoy, W. K. & Hannum, J. W. (1997). Middle school climate: An empirical assessment of organizational health and student achievement. *Educational Administration Quarterly, 33*(3), 290-311.
- Hymel, S., Comfort, C., Schonert-Reichl, K., & McDougall, P. (1996). Academic failure and school dropout: The influence of peers. In J. Iuvonen & K. R. Wentzel (Eds.), *Social motivation- Understanding children's school adjustment* (pp. 313-345). Cambridge, U.K.: Cambridge University Press.
- Hayes, A. F., & Scharkow, M. (2013). The Relative Trustworthiness of Inferential Tests of the Indirect Effect in Statistical Mediation Analysis: Does Method Really Matter? *Psychological Science, 24*(10), 1918-1927. <https://doi.org/10.1177/0956797613480187>
- Hoy, W. K., Tarter, C. J., & Kottkamp, R. B. (1991). *Open schools, healthy schools: Measuring organizational climate*. Corwin Press.
- Hoy, W. K., & Miskel, C. G. (2015). Eğitim Yönetimi: Teori, araştırma ve Uygulama [Education Management: Theory, Research and Practice] (S. Turan. Ankara: Nobel. (Original work published 2005).
- Hu, H. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modelling: a multidisciplinary journal, 6*(1), 1-55.
- Karakütük, K., Tunc, B., Bülbül, T., Özdem, G., Tasdan, M., Çelikkaleli, Ö., & Bayram, A. (2014). Examining the relationship between school size and school climate in public high schools. *Eğitim ve Bilim, 39*(171).
- Karasar N. (2005). *Bilimsel Araştırma Yöntemi: Kavramlar, İlkeler ve Teknikler*. Ankara: Nobel Yayıncılık.
- Korkut, K. & Babaoğlu, E. (2012). Sınıf öğretmenlerinin öz-yeterlik inançları [Primary school teachers' self efficacy]. *Uluslararası Yönetim İktisat ve İşletme Dergisi, 8* (16): 269-282.
- Kurt, T., & Çalık, T. (2010). Okul iklimi ölçeği'nin (OİÖ) geliştirilmesi [Development of the school climate scale (SCS)]. *Eğitim ve Bilim, 35*(157).
- Linnenbrink, E. A., & Pintrich, P. R. (2003). The role of self-efficacy beliefs in student engagement and learning in the classroom. *Reading and Writing Quarterly, 19*, 1197137.
- Litwin, G. H., & Stringer, R. A. (1968). *Motivation and organizational climate*. Division of Research, Graduate School of Business Administration, Harvard University PY
- Lunenburg, F. C., & Ornstein, A. C. (2013). Eğitim yönetimi [Education administration] (6. Basım) (Çev. G. Arastaman). Ankara: Nobel.
- Maddux, J. E. (2002). Self-efficacy. *Handbook of positive psychology, 277-287*.
- Morgan, G. A., Leech, N. L., Gloeckner, G. W., & Barrett, K. C. (2004). *SPSS for introductory statistics: Use and interpretation* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- McGeown, S. P., Putwain, D., Simpson, E. G., Boffey, E., Markham, J., & Vince, A. (2014). Predictors of adolescents' academic motivation: Personality, self-efficacy and adolescents' characteristics. *Learning and Individual Differences, 32*, 278-286.

- MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, 12, 73–84. doi:10.1080/13603120701576241.
- Patel, J. K., & Read, C. B. (1996). *Handbook of the Normal Distribution. (2nd Edition)*. New York: Dekker
- Schermelleh, E. K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of psychological research online*, 23(8), 23-74.
- Schunk, D. H. (1983). Developing children's self-efficacy and skills: The roles of social comparative information and goal setting. *Contemporary Educational Psychology*, 8(1), 76-86.
- Sherblom, S. A., Marshall, J. C., & Sherblom, J. C. (2006). The relationship between school climate and math and reading achievement. *Journal of Research in Character Education*, 4(1–2), 19–31.
- Stewart, E. B. (2008). School structural characteristics, student effort, peer associations, and parental involvement: The influence of school- and individual-level factors on academic achievement. *Education & Urban Society*, 40, 179–204.
- Tagiuri, R. (1968). The concept of organizational climate. In R. Tagiuri & G.H. Litevin (Eds.), *Organizational climate: Explanation of a concept* (pp. 11–35). Boston: Harvard University Press.
- Telef, B. B., & Karaca, R. (2012). Çocuklar için öz-yeterlik ölçeğinin geçerlik ve güvenirlik çalışması [The self-efficacy scale for children; a validity and reliability study]. *Dokuz Eylül Üniversitesi Buca Eğitim Fakültesi Dergisi*, (32), 169-187.
- Telef, B. B., & Ergün, E. (2013). Lise öğrencilerinin öznel iyi oluşlarının yordayıcısı olarak öz-yeterlik [Self-efficacy as a predictor of high school students' subjective well-being]. *Journal of Theoretical Educational Science*, 425.
- Telef, B., & Karaca, R. (2011). Ergenlerin öz-yeterliklerinin ve psikolojik semptomlarının incelenmesi/ [Adolescents' self-efficacy and psychological symptoms' investigation]. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 8(16), 499-518.
- Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of educational research*, 83(3), 357-385.
- Topal, Ö.S. (2001). Okul ikliminin okulların ÖSS başarıları ile ilişkisi (Eskişehir il merkezi devlet liseleri örneği) [The relationship between school climate and schools' achievement in ÖSS] . Eskişehir Osmangazi Üniversitesi, Sosyal Bilimler Enstitüsü, Yüksek Lisans Tezi.
- Van Dinther, M., Dochy, F., Segers, M., & Braeken, J. (2014). Student perceptions of assessment and student self-efficacy in competence-based education. *Educational Studies*, 40(3), 330-351.
- Van Houtte, M., & Van Maele, D. (2011). The black box revelation: In search of conceptual clarity regarding climate and culture in school effectiveness research. *Oxford Review of Education*, 37(4), 505-524.
- Walker, B. J. (2003). The cultivation of student self-efficacy in reading and writing. *Reading & Writing Quarterly*, 19(2), 173-187.
- Weidinger, A. F., Steinmayr, R., & Spinath, B. (2017). Changes in the relation between competence beliefs and achievement in math across elementary school years. *Child Development*, 89(2), 138– 156.
- Witt-Rose, D. L. (2003). Student self-efficacy in college science: An investigation of gender, age, and academic achievement. Unpublished Dissertation. Wisconsin University
- Yüceler, A. (2009). Örgütsel bağlılık ve örgütsel iklim ilişkisi: Teorik ve uygulamalı bir çalışma [The Relationship between organizational commitment and organizational climate: a theoretical and practical study].. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 22, 445-458.
- Yüner, B., & Burgaz, B. (2019). Okul yönetimi ile okul iklimi arasındaki ilişkinin öğretmen görüşlerine göre incelenmesi [Evaluation of the relationship between school governance and school climate]. *Eğitim ve Bilim*, 44(199).

- Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary educational psychology*, 25(1), 82-91.
- Zimmerman, B. J., & Bandura, A. (1994). Impact of self-regulatory influences on writing course attainment. *American Educational Research Journal*, 31(4), 845-862.
- Zysberg, L., & Schwabsky, N. (2020). School climate, academic self-efficacy and student achievement. *Educational Psychology*, 1-16.