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Investigation of the Relationship Between Secondary School Teachers' Teaching Styles, Self-Efficacy, and Emotional Intelligence Levels*

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Abstract

This study aimed to determine whether a relationship exists between middle school teachers' emotional intelligence levels, teaching styles, and self-efficacy. A correlational research model was used in the research. The participants of the study consisted of 321 teachers working in middle schools. Data were collected using a personal information form, a teaching style scale, a teacher self-efficacy scale, and the Rotterdam Emotional Intelligence Scale. SPSS software was used for data analysis. As a result of the research, it was determined that teachers had high levels of teaching style, self-efficacy, and emotional intelligence. A positive and moderate correlation was found between teachers' teaching styles and self-efficacy levels, teaching styles and emotional intelligence levels, and emotional intelligence levels and self-efficacy. The study also revealed that the teaching style and self-efficacy variables predicted 31% of the emotional intelligence level. Given these findings, educational practitioners and policymakers should incorporate emotional intelligence and self-efficacy enhancement into teacher professional development strategies to refine teaching styles and elevate educational quality.

Keywords:

Teaching style, Self-efficacy, Emotional intelligence

Introduction

When scrutinizing education within the context of a social system, it becomes apparent that the fundamental components, or inputs, of this system include students, teachers, curriculum, administrators, educational professionals, technological resources, and physical and financial assets.Among these, the teacher is the most fundamental element. The quality of education is closely related to the quality of teachers. For this reason, the place of teachers in the education system is of great importance regarding the quality of educational services (Şişman & Acat, 2003). Teachers' instructive aspects, personalities, behaviors, attitudes, and values, who are the focal point

of our education system, greatly affect their students (Saracaloğlu, Certel, Varol, & Bahadır, 2012). Teachers and students spend most of the day together in the classroom and are expected to be able to perform certain tasks during this time. During this period, teachers and students work together in the classroom to achieve specific educational goals, with teachers taking primary responsibility (Aydın, 2013). Therefore, recognizing and fostering the multifaceted role of teachers as pivotal to the educational system is essential for enhancing the overall quality and effectiveness of education.

Teachers are expected to have specific characteristics so that their knowledge and personalities can positively affect students. The characteristics of an effective teacher in the classroom environment are classified into four dimensions: cognitive characteristics, personality traits, teaching style, and discipline. The cognitive characteristics of teachers include knowledge of processes such as intelligence, content knowledge, development, motivation, and learning. Teachers' personality traits are characterized by a spectrum that includes their knowledge, pedagogical skills, optimism, sense of fairness, collaborative spirit, professional ambition, and the manner in which they engage with students.This approach can have positive and negative effects on students.

Teachers' teaching styles encompass the strategies and techniques they employ in the classroom to engage students, provide reinforcement, and offer feedback. Meanwhile, discipline pertains to the governance mechanisms teachers utilize to maintain order, influencing student behavior and enforcing classroom rules (Ausubel, 1969 as cited in Açıkgöz Ün, 2016).

Teachers plan and manage the education and training process through decision-making. The effectiveness of this process depends on the qualifications of the teacher. Teachers hold distinct and significant responsibilities as architects of the learning environment and as role models within it, shaping the educational experience for their students. Teachers who know themselves, understand their emotions, direct themselves and their relationships, empathize in interpersonal relationships, and motivate themselves will be able to succeed more easily while fulfilling this important responsibility. On the other hand, teachers who cannot meet expectations will not be satisfied with their profession and experience professional burnout, and the quality of education will be significantly affected (Yaman, 2019). Baltaş (2006) also states that being able to understand the expectations and needs of other people, their strengths and weaknesses through emotions, and being strong in stressful situations is a competence that people need to have to be the kind of person they want to see around them.

Teachers' values, attitudes, and experiences, in other words, their behaviors affect their students, society, their professional future, and their colleagues (Doğan, 2003). It is also stated that teachers' teaching style preferences effectively create a constructivist learning environment (Mertoğlu, 2011). Dunn and Dunn (1979) defined teaching style as teachers' attitudes toward teaching programs, teaching methods, teaching environments, and the tools and materials used. Carr (1998) defines the teaching style as the attitudes, behaviors, and characteristics exhibited by the teacher in the learning-teaching process. The focal point of many definitions of teaching style is the teaching behaviors that teachers consistently demonstrate. Teachers who know their own teaching styles and aware of the superior and limited aspects of the teaching style can make the learning-teaching process more efficient. Teachers who know their teaching styles can better comprehend the logic of teaching, choose the most appropriate one among different teaching styles, and easily identify the strengths and weaknesses of their teaching styles (Grasha, 2002).

Grasha and Yangarber-Hicks (2000) assert that teaching styles are a part of a teacher's personality. Teaching styles are formed depending on the teacher's needs, feelings, motives, beliefs, and orientations about what to teach. Teachers can improve the teaching-learning process by considering teaching styles and their characteristics. According to Conti (1989), teachers can enhance their students' learning and alter how their students interact in the classroom by being aware of their teaching styles, thus improving classroom organization and student interactions.

In addition to the teaching styles used, another factor affecting teachers' work performance and the efficiency of the education process is individuals' self-efficacy beliefs. Self-efficacy is defined as an individual's belief in their ability to organize and execute the actions required for successful performance (Bandura, 1997).

Self-efficacy belief, which is a concept that reveals to what extent an individual will or will not be able to perform a competency by considering his/her own beliefs, attitudes, and experiences, is used in many fields because it is the most important predictor of human behavior (Schunk, 1990). In this context, the concept of self-efficacy is also used in education to explain individual differences among teachers and improve teacher behaviors (Enochs & Riggs, 1990).

Tschannen-Moran and Woolfolk Hoy (2007) emphasize that self-efficacy significantly influences a teacher's pedagogical decisions and emotional state. According to Glackin (2019), teachers with high self-efficacy and outcome expectations tend to behave positively find personal satisfaction in their efforts,

while those with low self-efficacy and outcome expectations may consider quitting or displaying indifference toward their profession.

Research on self-efficacy reveals that teachers with high self-efficacy perform student-centered studies and provide education in a way that increases student achievement (Martin, 2006). In this context, it can be said that the concept of teacher self-efficacy is a concept that can affect the quality of the educational process.

Teachers have very important duties and responsibilities to fulfill for education and training to achieve the goals determined. Teachers need to be aware of their own emotions as well as the emotions of the people around them, establish good relationships with them, empathize with them, cope with the problems and stress they face, and manage conflict situations effectively for students to be best prepared for life academically and socially successful, and to become conscious, responsible, loving, and respectful individuals (Sağlam, 2018).

Academic intelligence alone is insufficient for individuals to navigate their inner world and communicate effectively with others and society. Understanding and realistically managing one's and others' emotions and exhibiting appropriate attitudes and behaviors are aspects of emotional intelligence.

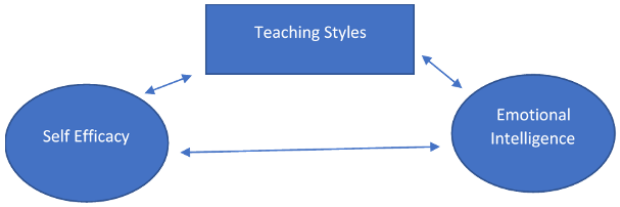
An individual interacting with his/her environment exhibits many behavioral patterns. These behaviors occur due to many emotional and cognitive factors. Emotions have the power to influence all behaviors of an individual. Contrary to popular belief, emotions drive our thoughts instead of serving them. This is because emotions guide our actions and imbue our lives with meaning.At the same time, they enable individuals to control their behaviors, store and structure their experiences, solve problems, and think (Greenspan, 2004). In other words, emotions are powerful planners of thought and action. Although they are considered contradictory concepts, they are necessary for reasoning and acting following reason and logic (Cooper & Sawaf, 1997).

Emotional intelligence is an approach that merges the realms of emotion and intelligence, viewing emotions as a valuable source of information that aids individuals in navigating and making sense of their social environment (Salovey & Grewal, 2005). Goleman (2006) further defines emotional intelligence as the capacity to motivate oneself, persevere in the face of setbacks, delay gratification by managing impulses, control one's mood, prevent distress from clouding one's thinking, empathize with others, and maintain hope.

Emotional intelligence is an ability to recognize, understand, and use emotions effectively, making it easier to cope with ourselves and othersmaking it easier to cope with ourselves and others. In other words, it is a competence that expresses the ability to understand other people's expectations and needs, their strengths and weaknesses through emotions, and to be strong in stressful situations (Baltaş, 2006). Individuals with high emotional intelligence demonstrate positive traits such as effective communication, empathy, self-control, cooperation, motivation, influence, and leadership, which positively impact those around them (Tunca, 2010).

In light of the information given, it is thought that teachers' emotional intelligence levels, teaching styles, and self-efficacy beliefs are among the factors affecting their classroom performance. The teaching styles can influence their levels of self-efficacy and emotional intelligence in the education-teaching process.. Conversely, their self-efficacy and emotional intelligence levels can also impact their teaching styles. This situation is shown in Figure 1.

Figure 1.
The relationship between teaching styles, self-efficacy, and emotional intelligence



Studies in the literature have shown that teachers with higher self-efficacy perceptions tend to prefer student-centered teaching styles like personal model, facilitator, and representative, while those with lower self-efficacy perceptions do so less (Grasha, 1994). Dilekli (2015) revealed a significant relationship between teachers' classroom practices for teaching thinking skills, their self-efficacy perceptions towards teaching thinking skills, and their teaching styles. From this point of view, it can be said that teachers' teaching style preferences may differ according to their self-efficacy perceptions.

Teachers' emotional intelligence and self-efficacy levels are believed to contribute to a more effective educational process. Studies in the literature have found a significant relationship between emotional intelligence and self-efficacy. Berkant and Ekici (2007) reported a significant relationship between preservice teachers' social/interpersonal intelligence level and their self-efficacy belief scores in science teaching. Şenel, Adiloğulları, and Ulucan (2014) revealed significant relationships between teachers' emotional intelligence, general self-efficacy, and teaching self-

efficacy beliefs. Karamehmetoğlu (2017) conducted a study examining whether the emotional intelligence levels of physical education teachers predict their professional self-efficacy and interpersonal problem-solving skills. As a result of this study, it was revealed that emotional intelligence level was a predictor of all self-efficacy sub-dimensions of professional self-efficacy towards student participation, teaching strategies, and classroom management. There was a positive relationship between these variables and emotional intelligence.

In the literature, it is seen that there are very few studies that examine the relationship between teachers' levels of emotional intelligence and teaching styles. Öznacar, Yılmaz, and Güven (2017) concluded that teachers' emotional intelligence levels are a factor affecting their teaching style preferences and the quality of education. This study examines the relationships between teachers' emotional intelligence levels, teaching styles, and self-efficacy, which is important for understanding these interconnected variables. The literature review did not yield studies that exploring the relationships between all three variables simultaneously. Therefore, it is expected that the results of this study will help teachers recognize their levels of emotional intelligence and self-efficacy perceptions and, accordingly, make the right decisions about which teaching styles they should prefer during learning and teaching processes and improve their professional competencies. Therefore, the research results may also contribute to the development of education programs implemented in teacher training institutions.

Derived from this conceptual framework, and b, this study aimed to determine whether there is a relationship between teaching styles and self-efficacy of secondary school teachers and their emotional intelligence levels. In order to reach this general purpose, the following research questions were sought to be answered:

1. What are teachers' teaching style preferences?
2. What are teachers' self-efficacy levels?
3. What are the emotional intelligence levels of teachers?
4. Is there a significant relationship between teachers' teaching styles, self-efficacy, and emotional intelligence levels?
5. To what extent do teachers' teaching styles and self-efficacy levels predict their emotional intelligence levels?

Method

This section provides detailed descriptions of the research model, population and sample, data collection instruments, data gathering procedures, and the statistical methods employed in data analysis. This study was conducted with the approval of the Anadolu University Social Sciences and Humanities Scientific Research and Publication Ethics Committee, granted on 30.03.2021 under protocol number 46383.

Research Model

This study aimed to determine whether there is a relationship between teaching styles and the self-efficacy of secondary school teachers and their levels of emotional intelligence. The research model chosen is a correlational research model (Karasar, 2003), which aims to determine the current situation and the degree of covariance between multiple variables. In another definition, the correlational research model is explained as "research in which the relationship between two or more variables is examined without intervening in these variables in any way" (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, & Demirel, 2017).

Population and Sample

The study's population consists of 66 secondary schools situated in the Odunpazarı and Tepebaşı districts of Eskişehir province, employing a total of 2,477 secondary school teachers in the 2020-2021 academic year. Specifically, Odunpazarı district hosts 35 central schools with 1,530 teachers, while Tepebaşı district comprises 31 central schools with 947 teachers.

The study sample consists of secondary school teachers selected through cluster sampling from schools in Odunpazarı and Tepebaşı districts during the academic year 2020-2021. Based on theoretical sample size calculations for different population sizes and the required sample size for a 95% confidence level with an acceptable error rate (Anderson, 1990, as cited in Balcı, 2020), data were collected from a total of 321 teachers. All forms collected were complete, with no missing information or random markings from the researcher.

Demographic characteristics of the sample are presented in Table 1.

When the distribution of teachers according to demographic characteristics is analyzed; 73,2% were female, 26,8% were male, 14,0% had 1-5 years of service, 26,5% had 6-10 years of service, 24,9% had 11-15 years of service, 16,2% had 16-20 years of service, 18,4% had 21 years or more of service, 18,1% were science teachers, 21% were science teachers,2% were mathematics, 11.8% were social sciences, 20.2% were Turkish, 7.8% were art, 10.9% were technology and design, 10.0% were from other branches, 82.9% were undergraduate graduates and 17.1% were graduate graduates. It was also determined that 78.5% were graduates of the faculty of education, 8.4% were

graduates of the faculty of science and literature, and 13.1% were graduates of other school types.

Table 1.
Demographic Characteristics of Teachers

Demographic Characteristics	Group	*N*	Percentage%
Gender	Female	235	73,2
	Male	86	26,8
Year of Service	1-5 years	45	14,0
	6-10 years	85	26,5
	11-15 years	80	24,9
	16-20 years	52	16,2
	21years and over	59	18,4
Branch	Science	58	18,1
	Mathematics	68	21,2
	Turkish	65	20,2
	Social Sciences	38	11,8
	Visual Arts	25	7,8
	Technology and Design	35	10,9
	Others	32	10,0
Education status	Bachelor's Degree	266	82,9
	Master's degree	55	17,1
Graduate School Type	Faculty of Education	252	78,5
	Faculty of Science and Literature	27	8,4
	Others	42	13,1
	Toplam	321	100,0

Data collection tools

A range of measurement instruments was used to evaluate the variables identified during data collection. The following section provides details on the three scales employed in this study.

Teaching style scale

In order to determine the teaching styles of the teachers, the "Teaching Style Scale" developed by Grasha (1994) and translated into Turkish by Sarıtaş and Süral (2010) was used. Necessary permission was obtained for the use of the scale.

> *The Grasha-Reichmann Teaching Style Scale comprises five sub-dimensions with eight items each, totaling 40 items. Sarıtaş and Süral (2010) adapted the scale from English to Turkish, determining its reliability coefficient to be .875. Unlike the original version of the Grasha-Reichmann Teaching Style Scale, where reliability coefficients for the sub-dimensions were not calculated, this study conducted a fresh reliability analysis, yielding the results presented in Table 2.*

Table 2.
Teaching Style Scale Reliability Analysis

Scale and Subsclaes	Cronbach's Alpha	Number of Items
Informative teaching style	0,603	8
Authoriative teaching style	0,679	8
Personal teaching style	0,698	8
Guiding teaching style	0,837	8
Consulting teaching style	0,655	8
Teaching Style	0,903	40

As seen in Table 2, it was determined that the scale subscales had internal consistency above .60. The overall scale demonstrated an internal consistency of .90. The Cronbach's Alpha coefficient ranges from 0 to 1. According to the evaluation criteria, if $0.00 \leq \alpha < 0.60$, the scale is considered to have low reliability; if $0.60 \leq \alpha \leq 0.80$, it is considered quite reliable and if $0.80 \leq \alpha \leq 1.00$, the scale is considered highly reliable (Karagöz Y., 2014). Based on these criteria, it was accepted that the scale and all its subscales had internal consistency above .60, indicating reliability.

The scale is a five-point Likert-type measurement tool. In determining teaching styles, each teaching style was grouped into three levels as: "low", "medium", and "high" level (Sarıtaş & Süral, 2010). The scoring schedule of the scale is shown in Table 3.

Table 3.
Teaching Styles Scale Scoring Schedule

Teaching Styles	Degree of teaching styles		
	Low	Middle	High
Informative	1.0 – 2.8	2.9 – 3.8	3.9 – 5.0
Authoritative	1.0 – 1.8	1.9 – 3.0	3.1 – 5.0
Personal	1.0 – 2.8	2.9 – 3.4	3.5 – 5.0
Guiding	1.0 – 2.9	3.0 – 4.0	4.1 – 5.0
Consulting	– 1.8	1.9 – 2.8	– 5.0

Teacher self-efficacy scale

This study employed the "Teacher Self-Efficacy Scale" developed by Tschannen-Moran and Woolfolk Hoy (2001) and subsequently adapted into Turkish by Çapa et al. All required permissions for using the scale were secured.

The scale was developed by Tschannen-Moran and Woolfolk Hoy (2001) after a study conducted at Ohio State University to determine the self-efficacy perceptions of classroom teachers and pre-service teachers. It was administered to a total of 628 participants, including 399 pre-service teachers and 225 teachers.

The scale uses a nine-point Likert scale, with options ranging from "Inadequate (1)" to "Very Adequate (9)." The scale consists of 24 items and is categorized into three subscales: student engagement, self-classroom

management, and instructional strategies. The lowest possible score on the scale is 24, and the highest is 216.

For this study, a reliability analysis was conducted again, and the results in Table 4 were obtained:

Table 4.
Teacher Self-Efficacy Scale Reliability Analysis

Scale and Subscales	Cronbach's Alpha	Number of Items
Student engagement	0,893	8
Classroom management	0,921	8
Instructional strategies	0,911	8
Teacher self-efficacy	0,960	24

As shown in Table 4, the reliability coefficient for the "Student Engagement" subscale of the scale was .89, for the "Classroom Management" subscale was .92, and for the "Instructional Strategies" subscale was .91. The reliability coefficient for the entire scale was .96. Based on this information, it was concluded that the entire scale and all its subscales were highly reliable (Karagöz, 2014).

In the descriptive statistics of the scale and the interpretation of arithmetic averages, the approach in the studies using this scale in the literature was adopted (Aytaç, 2018; Ekinci, 2015; Yeşilyurt, 2013). Accordingly, 1.00-2.60 was accepted as "very low", 2.61-4.20 as "low", 4.21-5.80 as "medium", 5.81-7.40 as "high" and 7.41-9.00 as "very high".

Emotional intelligence scale

In this study, the Rotterdam Emotional Intelligence Scale, developed by Pekaar et al. (2017) and translated into Turkish by Tanrıöğen and Türker (2019), was utilized to assess the emotional intelligence levels of teachers. Appropriate permissions were secured for the use of this scale.

The Rotterdam Emotional Intelligence Scale, which consists of 28 items in total, has 4 sub- dimensions: "evaluating own emotions", "evaluating others' emotions", "controlling own emotions" and "controlling others' emotions".

The reliability value of the scale developed by Pekaar et al. (2017) was calculated as .82 for the "Assessing Own Emotions" dimension, .85 for the "Assessing Others' Emotions" dimension, .80 for the "Controlling Own Emotions" dimension, and .82 for the "Controlling Others' Emotions" dimension. The reliability value of the whole scale was .84. Reliability analysis was conducted again for this study and the information in Table 5 was obtained.

Table 5.
Rotterdam Emotional Intelligence Scale Reliability Analysis

Scale and Subscales	Cronbach's Alfa
Assessing Own Emotions	0,934
Assessing the Emotions of Others	0,944
Control Own Emotions	0,909
Controlling the Emotions of Others	0,950
Rotterdam Emotional Intelligence	0,950

As seen in Table 5, the reliability value of the "Assessing Own Emotions" subscale of the scale was.93, the reliability value of the " Assessing Others' Emotions" subscale was .94, the reliability value of the "Controlling Own Emotions" subscale was .90, and the reliability value of the "Controlling Others' Emotions" subscale was .95. The reliability value of the whole scale is .95. In the light of this information, it was accepted that the entire scale and all its sub-dimensions were highly reliable (Karagöz, 2014).

The scale is a five-point Likert-type scale: "strongly disagree (1)", "slightly agree (2)", "moderately agree (3)", "strongly agree (4)", "strongly agree (5)". The highest score that can be obtained from the scale is 140 and the lowest score is 28.

As in Koçdaş (2020), one of the studies in which the scale was used, the assumption was made that the scale used in this study is equally spaced. The score range coefficient was determined as 0.80. Accordingly, 1.00-1.80 was accepted as "very low", 1.81-2.60 as "low", 2.61-3.40 as "medium", 3.41-4.20 as "high", and 4.21-5.00 as "very high".

Data Collection

Data for the study were gathered online via Google Forms, which were distributed to teachers through school WhatsApp groups by school administrators. Follow-up reminders were also sent to schools that had not submitted complete data to ensure a comprehensive collection.

Data Analysis

The data obtained within the scope of the research were analyzed with the SPSS 24 program. Descriptive statistics (arithmetic mean and standard deviation) of the responses to the research's first, second, and third questions were calculated. To compare the scale scores according to different variables within the scope of the fourth sub-objective of the research, normality and homogeneity of variances were checked by calculating the means and standard deviations of the responses for each variable. In cases where the sample size was less than 50, the Shapiro

- Wilk test was used, and in cases where the sample size was greater than 50, the Kolmogorov-Smirnov test was used. Arithmetic mean, median, skewness, and kurtosis coefficients, which are measures of central tendency, were used to determine the distribution of the obtained data. When the median and arithmetic mean values are close to or equal to each other, the skewness and kurtosis values ±2 The distribution of the data obtained due to falling within the limits was determined to be from a normal distribution (George and Mallery 2010). For this reason, parametric tests were used to analyze the data collected from all scales used in the study.

As a result of the normal distribution of the data obtained, hypothesis tests were statistically tested at 95% confidence level, and Cronbach's Alpha analysis was performed to determine the reliability levels of the scales. Pearson's correlation analysis was used to determine the relationships between the independent variable and the dependent variables, and multiple regression analysis was used to measure the effect of the independent variable on the dependent variable.

Before conducting the regression analysis, the assumptions of regression analysis, such as the normal distribution of the data, the existence of a relationship between the variables, and the absence of autocorrelation and multicollinearity problems were examined. The Durbin-Watson value was examined to assess autocorrelation, resulting in a value of 1.883, falling within the range of 1-3, indicating no autocorrelation for each regression coefficient (Field, 2005). At the same time, in the research model, in examining the effects of the independent variables of teaching style and teacher self-efficacy on emotional intelligence, a multiple linear regression model was made because the independent variables were more than one and while deciding whether there was multicollinearity in the relevant model, the VIF value was examined. The VIF value was found to be 1.542, and since this value was not below 10, it was determined that there was no multicollinearity problem (Field, 2005). Based on these assessments, it was confirmed that the assumptions for the research's regression analysis were met.

Findings

In this section of the study, the findings of the analysis of the data obtained as a result of the research are presented in the order of the research questions.

Findings Related to Teachers' Teaching Style Levels

The descriptive analyses conducted to answer the first question of the study, "What are teachers' teaching style preferences?" are shown in Table 6.

Table 6.
Descriptive Findings Related to Teaching Styles Levels

	$\bar{x}$	S.D.
Informative Teaching Style	3,97	0,39
Authoritarian Teaching Style	3,70	0,47
Personal Teaching Style	3,98	0,39
Guide Teaching Style	4,14	0,46
Consultant Teaching Style	3,79	0,43
Teaching Style	3,92	0,34

When analyzing the descriptive findings of the teaching style levels in Table 6, it is seen that the levels of teaching styles ($\bar{x}$ = 3,92) were found to be higher. Further examination of the sub-dimensions of the teaching styles scale revealed that knowledge transfer ($\bar{x}$ = 3.97), authoritarian ($\bar{x}$ =3.70), personal ($\bar{x}$ = 3.98), guide ($\bar{x}$ = 4.14), and counselor ($\bar{x}$ = 3,79) demonstrated high levels of teaching styles.

Findings Related to Teachers' Self-Efficacy Levels

The descriptive analyses conducted to answer the second question of the study, "What are the self-efficacy levels of teachers?" are shown in Table 7.

Table 7.
Descriptive Findings on Teachers' Self-Efficacy Levels

Subscales	$\bar{x}$	S.D.
Student engagement	6,77	0,98
Classroom management	7,25	0,93
Instructional strategies	7,18	0,93
Teacher self efficacy	7,06	0,87

When the descriptive findings of teachers' self-efficacy levels in Table 7 are analyzed, it is seen that the teachers exhibited high levels of self-efficacy. Further examination of the sub-dimensions of the teacher self-efficacy scale revealed that student engagement ($\bar{x}$ = 6.77), classroom management ($\bar{x}$ = 7.25) and the level of instructional strategies ($\bar{x}$ = 7.18) demonstrated high.

Findings Related to Teachers' Emotional Intelligence Levels

The descriptive analyses conducted to answer the third question of the study, "What are the emotional intelligence levels of teachers?" are shown in Table 8.

Table 8.
Descriptive Findings on Rotterdam Emotional Intelligence Levels

Sub-dimensions	$\bar{x}$	S.D.
Assessing Own Emotions	4,08	0,63
Assessing the Emotions of Others	3,74	0,70
Control Own Emotions	3,39	0,77
Controlling the Emotions of Others	3,42	0,77
Rotterdam Emotional Intelligence	3,66	0,55

When analyzing the descriptive findings of the emotional intelligence levels in Table 8, it is seen that the' emotional intelligence levels ($\bar{x}$ =3.66) were found to be high. When the sub-dimension averages of the Rotterdam emotional intelligence scale were analyzed, it was found that the level of evaluating their own emotions ($\bar{x}$ = 4.08), the level of evaluating the emotions of others ($\bar{x}$ = 3.74), and control levels of others' emotions ($\bar{x}$ = 3.42), and their level of control over their own emotions ($\bar{x}$ = 3.39) was found to be at the medium level.

Findings Revealing the Relationship Between Teachers' Teaching Style, Self-Efficacy, and Emotional Intelligence Levels

To examine the associations between teachers' teaching styles, self-efficacy, and emotional intelligence levels, as addressed by the fourth research question regarding their significant relationship, a correlation analysis was performThe results of this analysis are shown in Table 9.

Table 9.
The Relationship Between Teaching Style, Self-Efficacy, and Emotional Intelligence

Scales	Teaching Style	Self Efficacy	Emotional Intelligence
Teaching Style	1	0,593**	0,470**
Self-Efficacy	0,593**	1	0,524**
Emotional Intelligence	0,470**	0,524**	1

**p<0.01

As Table 9 illustrates, a significant, positive, and moderate correlation exists between teachers' teaching styles and self-efficacy levels (r = 0.593, p < 0.01), indicating that an increase in teaching styles is associated with a rise in teacher self-efficacy. Similarly, a significant correlation is observed between teaching styles and emotional intelligence levels (r = 0.470, p < 0.01), suggesting that as teaching styles enhance, emotional intelligence also improves. Furthermore, there is a significant relationship between emotional intelligence levels and self-efficacy (r = 0.524, p < 0.01), denoting that higher self-efficacy is linked to increased emotional intelligence among teachers.

To investigate the relationships further, pairwise analyses were conducted within the sub-dimensions of the scales.The relationships between teaching style and self-efficacy sub-dimensions are shown in Table 10

Table 10.
The Relationship Between Teaching Style Dimensions and Teacher Self-Efficacy Dimensions

		Self-Efficacy		
		Student engagement	Classroom Management	Instructional strategies
Teaching Style	İnformative Teaching Style	,477**	,436**	,464**
	Authoritarian Teaching Style	,205**	,252**	,256**
	Personal Teaching Style	,443**	,417**	,456**
	Guide Teaching Style	,604**	,450**	,599**
	Consultant Teaching Style	,616**	,444**	,549**

**p<0.01

When the relationships between teaching styles and self-efficacy sub-dimensions shown in Table 10 were examined, it was seen that informative teaching style, personal teaching style, guiding teaching style, and counselor teaching style had a significant, positive, and moderate relationship with all self-efficacy sub-dimensions, while authoritarian teaching style had a significant, positive but low-level relationship with all self-efficacy sub-dimensions. The highest correlation coefficient of 0.616 (r = 0.616; p < 0.01) between counselor teaching style and student engagement dimension were found.

The findings regarding the relationship between teaching style and emotional intelligence sub-dimensions are presented in Table 11.

Table 11.
The Relationship Between Teaching Style Scale Dimensions and Emotional Intelligence Scale Dimensions

		Emotional Intelligence			
	Sub-dimensions	Assessing own emotions	Assessing the emotions of others	Control own emotions	Controlling the emotions of others
Teaching Style	Informative teaching Style	,281**	,371**	,222**	,323**
	Authoritarian Teaching Style	0,109	0,093	,126**	,136**
	Personal Teaching Style	,228**	,285**	,253**	,334**
	Guide Teaching Style	,382**	,479**	,331**	,477**
	Consultant Teaching Style	,306**	,395**	,321**	,417**

**p<0.01

As seen in Table 11, when the relationship between the dimensions of teaching style and emotional intelligence was examined, all relationships were found to be significant except for the relationship between authoritarian teaching style and emotional

intelligence with the sub-dimensions of assessing one's own emotions and assessing the emotions of others. However, it is worth noting that these relationships are of a low level. The highest correlation between the sub-dimensions was determined by the correlation coefficient of 0.479 (r = 0.479; p < 0.01) (r = 0.479; p<0.01). Furthermore, relatively higher but moderate relationships were found between the guiding teaching style and the dimension of controlling others' emotions (r = 0.477; p < 0.01) and between the counselor style and the dimension of controlling others' emotions (r = 0.417; p < 0.01). The findings regarding the relationships between emotional intelligence and self-efficacy sub-dimensions are presented in Table 12.

Table 12.
The Relationship Between Emotional Intelligence Sub-dimensions and Teacher Self-Efficacy

		Self-Efficacy		
		Student Engagement	Classroom Management	Instructional Strategies
Emotional Intelligence	Assessing own emotions	,350*	,385*	,353*
	Assessing the emotions of others	,446*	,394*	,421*
	Control own emotions	,326*	,286*	,272*
	Controlling the emotions of others	,468*	,394*	,401*

In Table 12, the relationship between the dimensions of emotional intelligence dimensions and the levels of self-efficacy was examined. Notably, all sub-dimensions were found to be significantly related to each other. The highest correlation coefficient of 0.468 was found between student engagement and controlling the emotions of others (r = 0.468; p < 0.01). Again, it was determined that there was a relatively high but moderate relationship between the dimensions of assessing others' emotions and student engagement (r = 0.446; p < 0.01), and assessing others' emotions and teaching strategies (r = 0.421; p < 0.01).

The Level of Prediction of Teachers' Teaching Styles and Self-Efficacy Levels on Emotional Intelligence

Regression analysis was conducted to answer the fifth question of the study: "To what extent do teachers' teaching styles and self-efficacy levels predict their emotional intelligence levels?"

Prior to conducting regression analysis, assumptions related to regression analyses were examined, including the normal distribution of data, the presence of relationships between variables, and the absence of autocorrelation and multicollinearity problems among variables. The Durbin Watson statistic was used to investigate the presence of autocorrelation for each coefficient of the regression model, yielding a value of 1.883. As this value falls within the range of 1-3, it was concluded that there is no autocorrelation for each established regression coefficient (Field, 2005).

Simultaneously, in examining the effects of teaching style and teacher self-efficacy as independent variables on emotional intelligence in the research model, a multiple linear regression model was employed due to the presence of multiple independent variables. To assess the presence of multicollinearity in the specified model, we examined the Variance Inflation Factor (VIF), which resulted in a VIF value of 1.542. Since this value is below 10, it was determined that there is no multicollinearity issue (Field, 2005). In light of all this information, it was established that the assumptions of the regression analysis conducted for the research were satisfied. The findings of the regression analysis performed are presented in Table 13.

Table 13.
Regression Analysis Results Regarding the Prediction Level of Teaching Styles and Teacher Self-Efficacy Levels on Emotional Intelligence Levels

Variable	β	Standart error	*t*	*p*	VIF	*F*	*F*
Fixed	0,429	0,295	1,455	0,120			
Teaching Style	0,246	0,092	4,259	0,000*	1,542	72,809	0,000*
Teacher self-efficacy	0,379	0,037	6,568	0,000*	1,542		

*p<0.05
Adjusted R^2=0,310;
Durbin Watson= 1,883
Independent: Teaching Style, Teaching Efficacy
Dependent: Emotional Intelligence

At a 95% confidence level, both the teaching style (t = 4.259, p = 0.000, p < 0.05) and self-efficacy (t = 6.568, p = 0.000, p < 0.05) were found to be significant predictors of emotional intelligence level.

As seen in Table 13, it was determined that the teaching style and self-efficacy variables explained 31.0% of the level of emotional intelligence (*R2* =0.310). The R2 value ranges from 0 to 1. If the value gets close to 0, it indicates that the model does not fit the data or the independent variables cannot explain the change in the dependent variable, and if it gets close to "1", it indicates that the change in the dependent variable is well explained by the dependent variables (Bayram, 2004: 119). According to this result, it is determined that the R2 value is at a low level.

The regression equation is given below as a result of the regression analysis. Rotterdam Emotional Intelligence = 0,246*Teaching Style+0,379*Teacher Self-Efficacy. This equation implies that a one-unit increase in teaching style levels corresponds to a 0.246 increase in emotional intelligence level, and a one-unit increase in teacher self-efficacy levels corresponds to a 0.379 increase in emotional intelligence level.

Discussion

This study was carried out to determine whether there is a relationship between secondary school teachers' teaching styles, self-efficacy, and emotional intelligence levels. First, descriptive statistics for these variables were provided, and then their relationships were explored.

Discussion on descriptive findings of teachers' teaching styles, self-efficacy, and emotional intelligence levels

Analysis of teachers' teaching styles revealed that they predominantly exhibited a high level of guiding teaching style and were less inclined towards the authoritarian one. This demonstrates that teachers value characteristics such as guiding their students, having the necessary level of knowledge for their students, ensuring students' development, and providing more opportunities for their students.This finding aligns with Bacak's (2018), Bilgin and Bahar (2008) studies. In his study, Grasha (1994) concluded that teachers with expert and authoritarian teaching styles direct the content, information flow, and time themselves, and accordingly, they adopt an autocratic attitude in the teaching process and have a low level of sensitivity to students' needs.

The study found that teachers showed high levels of self-efficacy, particularly in the dimensions of classroom management. These results align with prior research (Gökyer & Bakcak, 2018; Güven & Gökdağ Baltaoğlu, 2017; Kan, 2007), suggesting that undergraduate education equips teachers with the skills and confidence needed for their profession. These findings suggest that the courses teachers take during their undergraduate education enable them to be productive in their professional lives, and, accordingly, their self-efficacy levels are good. Aslan and Kalkan (2018) also stated that teachers' perception of themselves as professionally competent can be based on the quality of their undergraduate education and the potential of teachers to develop themselves in service. Başdal (2021), in his research with pre-service teachers, concluded that the teacher education program contributes positively to pre-service teachers' competencies towards the teaching profession, and that pre-service teachers gain the knowledge, skills, and behaviors needed to successfully fulfill the requirements and responsibilities of the teaching profession during their teacher education. Bandura (1997) states that direct experiences are the most effective sources of self-efficacy beliefs. In this context, it can be said that practical courses during teacher education contribute to teachers' self-efficacy development.

Upon analyzing the mean scores of teachers' emotional intelligence levels, it becomes evident that their emotional intelligence is significantly high. The analysis of the emotional intelligence sub-dimensions among teachers reveals that they exhibit high proficiency in 'self-evaluation of emotions,' 'evaluation of others' emotions,' and 'controlling others' emotions.' However, their capacity to 'control their own emotions' is moderately developed. These findings suggest that teachers are generally aware of their own emotions and have the ability to comprehend the emotions of others. Usta (2015), nci (2014), and Balkr (2022) all concluded in their studies that teachers have high levels of emotional intelligence.. Teachers' high levels of emotional intelligence is thought to contribute to their improved communication skills and thus to be more successful in their professions. İnci (2014) also states that individuals with a high level of emotional intelligence can have higher success and life satisfaction. Yaylacı (2006) states that individuals with high levels of emotional intelligence benefit from positive approaches and win-win strategies while communicating with their social environment, and thus both themselves and the other party achieve positive results. It is thought that teachers' high levels of emotional intelligence can be very effective both in their personal and professional lives. Brackett and Mayer (2003) also state that people with high levels of emotional intelligence also pay more attention to their health and appearance and have more positive interactions with their friends and family.

Discussion on the relationship between teachers' teaching style, self-efficacy,, and emotional intelligence levels

The literature review showed that although no study addressed all three variables at once, some studies focused on the relationship between the variables and supported the findings of the present study.

When we consider the levels of self-efficacy and teaching style exhibited by teachers, we find that there is a modest but positive correlation between all sub-dimensions of self-efficacy and the knowledge transmitter, personal, guide, and counselor teaching styles. In other words, teachers with knowledge transferring, personal, guiding, and counselor teaching styles have high levels of self-efficacy. Grasha (1996) states that teachers with knowledge transmitter teaching style present the information that students need in detail to students like an expert, teachers with personal teaching style direct students to their own interests, and teachers with counselor teaching style guide students with questions. Considering the characteristics of these teachers, it can be said that their levels of self-efficacy are also effective in their classroom practices and decisions.

A positive but low level relationship exists between authoritarian teaching style and all sub- dimensions of self-efficacy. Teachers employing an authoritarian teaching style instruct by setting rules and controlling

whether students follow these rules rather than adopting a student-centered in their classroom practices. This situation can cause teachers to act without having a high level of self-efficacy during classroom practices. Grasha (1996) also states that teachers with an authoritarian teaching style have traditional characteristics and care about implementing their own rules rather than the needs of their students. For this reason, teachers with authoritarian teaching style may have relatively lower levels of self-efficacy, and this may cause the classroom activities performed by teachers with other teaching styles to be different from those performed by teachers with authoritarian teaching style.

Considering the levels of self-efficacy and teaching style of teachers, the highest relationship is between the consultant's teaching style and the dimension of ensuring student participation. In other words, teachers with a consultant teaching style have a very high level of self-efficacy in the dimension of ensuring students' participation in the lesson. Research on this field also reveals that teachers employing a consultant teaching style encourage students to conduct independent studies and take responsibility (Deveci, 2008; Kolay, 2008).

Dilekli (2015) concluded that there was a weak positive correlation between general average self-efficacy scores and general average teaching style scores. The study found that the facilitative teaching style had the highest correlation with self-efficacy, while the personal teaching style had the lowest correlation. Consequently, it can be said that teachers with a facilitative teaching style have relatively high levels of self-efficacy. The study also concluded that there was a negative relationship between teacher self-efficacy and authoritarian teaching style. Şahin (2010) also found findings supporting the relationship between teachers' self-efficacy perceptions and teaching style preferences.

Heidari et al. (2012) also concluded that there is a relationship between teacher self-efficacy and teaching styles. Additionally, in this study, teachers with a counselor teaching style were found to have the highest self-efficacy. It was found that personal, authoritarian and expert teaching styles followed the consultant teaching style, respectively. Bacak (2018) concluded that science teachers' teaching styles did not significantly affect science teaching self-efficacy.

Baleghizadeh and Shakouri (2017) concluded in their study that teaching style and self-efficacy concepts are two interrelated elements; these variables increase teacher performance and simultaneously increase student achievement. Based on this finding, it can be said that the level of teaching style affects the level of self-efficacy, increasing the professional skills of teachers and thus enabling students to learn more effectively. Klausmeier and Allen (1978) also supported this finding and stated that teachers' self-efficacy beliefs affect the quality of teaching, the methods and techniques used, the participation of students in learning, and, in this case, students' achievement is also affected.

Boz and Uzuntiryaki (2006) also found that self-efficacy perception significantly affected choosing and using the personal model teaching style. Based on this, it was stated that especially in higher education institutions, pre-service teachers should be provided with opportunities to improve their self- efficacy perceptions and help them shape their teaching styles in the classroom environment. Based on this finding, it can be said that the increase in teachers' self-efficacy levels will also affect their preference for different teaching styles. For this reason, it is thought that it is important for teachers to be aware of their levels of self-efficacy in their undergraduate education and strive to increase it. Considering these findings, the increase in teachers' self-efficacy perceptions might lead to a divergence in their preference for teaching styles. Accordingly, enabling prospective teachers to improve their self-efficacy perceptions during the undergraduate education process may enable them to shape their teaching styles and thus improve their professional competencies.

When teachers' teaching styles and emotional intelligence levels are considered, it is seen that there is a positive and moderate relationship between the two. In other words, it means that when teachers' teaching styles increase, their emotional intelligence levels will also increase. Similarly, Öznacar et al. (2017) reported a positive relationship between all sub-dimensions of teaching style and emotional intelligence.

Upon examining the relationships between teaching styles and emotional intelligence sub-dimensions in the study, it was determined that there was no significant relationship between the authoritarian teaching style and the emotional intelligence sub-dimensions related to self-evaluation and evaluation of others' emotions. Dilekli (2015) states that teachers adopting authoritarian teaching styles tend to create teacher-centered and undemocratic classroom atmospheres. With the effect of this situation, it can be inferred that teachers with an authoritarian teaching style exhibit relatively lower proficiency in assessing both their own emotions and their students' emotions while applying their emotional intelligence in the teaching process. In this case, it asserted that teachers employing an authoritarian teaching style follow a way of communication with their students in which those who follow the rules are appreciated and those who do not follow the rules are punished. Deveci (2008) and Kolay (2008), who reached similar findings, also stated in their studies that teachers adopting an

authoritarian teaching style tend to be rule-oriented and traditional in their approach, often employing reward and punishment systems.

Considering the teachers' teaching style and emotional intelligence levels, it was determined that the highest relationship was found between the guiding teaching style and the dimension of evaluating the emotions of others. In other words, it can be said that teachers who employ a guiding teaching style are more successful in evaluating their students' emotions. Similarly, it was concluded that there was a medium-level significant relationship between teachers with a guiding teaching style and the dimension of controlling others' emotions and between teachers with a counselor teaching style and the dimension of controlling others' emotions. According to Grasha (1996), teachers with a guiding teaching style encourage their students and direct them to take responsibility. Based on this idea, it can be claimed that teachers with a guiding teaching style take their students' emotions into consideration while guiding them. It can be argued that these teachers care about their students' emotions throughout the process while ing them to take responsibility in classroom practices. Similarly, teachers with a consultant teaching style are student-centered teachers who guide their students to take responsibility. Grasha (1996) states that counselor teachers support their students to work independently during the teaching process. Teachers may benefit from understanding students' emotional states to better support their independent work and entrepreneurial endeavors. In their scale study, Deniz, Özer, and Işık (2013) also mentioned that counselor teachers benefit from the features of emotional intelligence such as influencing and persuading people, establishing healthy communication with them, and recognizing their emotions.

When examining the relationship between teachers' self-efficacy and emotional intelligence levels, a moderate positive correlation is observed between emotional intelligence and all sub-dimensions of self-efficacy.In other words, teachers with high levels of self-efficacy also have high levels of emotional intelligence. Upon examining the sub-dimensions of self-efficacy and emotional intelligence, it was found that the highest relationship was between the dimensions of ensuring student participation and controlling the emotions of others. Based on this finding, it can be said that the more teachers have the ability to control their students' emotions, the more they can increase their participation in the lesson.

The literature review indicates that prior research has produced findings similar to those of the current study.Türkekul (2019) concluded that an increase in the emotional intelligence levels of physical education and sports teacher candidates is associated with higher levels of academic self-efficacy. Çetin (2019) also concluded that there is a significant positive relationship between self-efficacy levels and emotional intelligence levels of athletes in his study. Chan (2004) concluded that self-efficacy beliefs are significantly influenced by the components of emotional intelligence but suggested that differences among teachers may affect this relationship.

Colomeischi (2014) concluded that teachers' emotional intelligence affects their understanding of work and general job satisfaction. Furthermore, the study revealed that teachers with higher levels of emotional intelligence are more satisfied with their jobs and have a more positive attitude toward work. At the same time, for the concept of self-efficacy, which is another dimension of his study, he similarly concluded that the higher the level of self-efficacy of teachers, the better attitude they will have towards their work and the higher their satisfaction will be. Considering these findings, it is believed that teacher self-efficacy increases when they use and evaluate their own emotions positively and when they can evaluate the emotions of the people around them. In their research, Akar and Üstüner (2017) concluded that pre-service teachers' self-efficacy perceptions are positively influenced by their capacity to understand and manage their own emotions, as well as those of others. This study determined that teachers' teaching style and self-efficacy are significant predictors of emotional intelligence levels. Furthermore, the findings indicate that teaching style and self-efficacy variables collectively account for 31.0% of the variance in emotional intelligence levels.

The study concluded that a one-unit increase in teaching style levels corresponds to a 0.246 increase in emotional intelligence level, and a one-unit increase in teacher self-efficacy levels results in a 0.379 increase in emotional intelligence level. This finding suggests that teachers' teaching style and self-efficacy levels are modest predictors of emotional intelligence.

As a result, it was concluded that the teachers who took part in the study possessed high levels of emotional intelligence, while the predictive power of their teaching style and self-efficacy level on their emotional intelligence levels was marginally weak.

Recommendations

Based on the findings obtained within the scope of the research, the following practical suggestions can be made: Determining teachers' teaching styles before they start their professional careers enables them to gain better self-awareness, recognizing their strengths and areas for improvement. For this reason, teachers' teaching styles should be determined during undergraduate education. Providing teachers with in-service training on various teaching styles can

enhance their classroom practices and enable them to make greater contributions to student development. Understanding which teaching styles are prevalent among teachers can enable the planning of appropriate learning and teaching activities. Considering the contribution of positive changes in teachers' teaching styles, self-efficacy, and emotional intelligence levels to the educational process, teacher training programs can be reorganized in the context of these variables. Pre-service teacher training programs can be reorganized in such a way that teachers can have sufficient knowledge about teaching styles, self-efficacy, and emotional intelligence and can be equipped with qualifications that can provide teachers with more experience in this field.For future research, several suggestions emerge from the current study's findings and limitations. Initially, the data were collected from teachers in the central districts of Eskişehir province at the secondary school level. To enhance the generalizability and depth of the findings, future studies could extend this research to various educational levels, including primary and high schools, and broaden the geographical scope to include different provinces. This expansion would provide a more comprehensive understanding of the educational landscape.

The study also highlighted differences in secondary school teachers' self-efficacy based on their teaching style preferences, particularly noting variations among those favoring authoritarian and consultant styles. To build on these insights, it is advisable to conduct further research encompassing a wider range of educational levels and a larger sample size. This would allow for a more nuanced exploration of how teaching style preferences and self-efficacy levels interact across different educational contexts. Additionally, investigating the alignment and interplay between teachers' teaching styles and their students' learning styles at various educational stages could yield valuable implications for pedagogical strategies.

Lastly, the observed moderate positive correlation between teachers' emotional intelligence and their self-efficacy levels points to an important area for further inquiry. Given the significant role of high self-efficacy in educational outcomes, future research should place a stronger focus on identifying and understanding the factors that influence teachers' self-efficacy perceptions. Exploring these dimensions can provide critical insights into how to support and enhance teachers' professional development and, consequently, student learning experiences.

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