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The Effect of Group Psychological Counseling Based on Solution-Focused Psychological Counseling Approach on the Level of Peer Bullying Experienced by Primary School Students Who have Experienced Peer Bullying

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Abstract

The aim of this research is to examine the effect of solution-focused psychological counseling based group counseling on primary school students. Data was collected from 95 students. As a result of the analyses, a randomly selected experimental group of nine people and a control group were formed. In the study, the Child Form of the Bullying Determine Scale was used as a data collection tool. The data was analyzed using the independent and paired sample t-test. The analyses were conducted using SPSS 26 at a significance level of .05. As a result of the analyzes made, it was found that the group counseling sessions based on solution-focused counseling applied to students who were exposed to peer bullying made a statistically significant difference in favor of the experimental group. In the control group, in which no counseling session was held, no change occurred. The findings obtained in the research were discussed in the context of the relevant literature.

Key Words

Solution-focused psychological counseling • Peer bullying • Primary school students

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Bullying is characterized by repetition of behavior and power imbalance in its most general form, and is defined as a sub-dimension of aggressive behavior (Olweus, 1999). The definition of systematic abuse of power also includes these two features (Smith & Sharp, 1994). In addition, the victim cannot protect himself/herself for one or more reasons. The bullied person may be smaller, weaker or psychologically weaker than the bullied person (Smith & Brain, 2000).

Studies conducted to date accept that bullying can occur in all schools as a reasonable generalization, even though there are different levels of bullying. Schuster (1999) found evidence of an identifiable victim in all classrooms in German schools. The national awareness that develops as a result of studies on bullying not only allows schools to accept the problem without being judged as a bad school, but also encourages school and outside authorities to take active steps to reduce the repetition of bullying. Bullying includes relational/social aggression (making rumors about the person, social exclusion), physical behaviors (kicking, hitting, damaging the belongings of the person), verbal attacks (calling and threatening) (Monks & Smith, 2006; Olweus, 1999). As a result of the developments in the internet and technology, a new field of bullying has emerged as a field of cyber bullying in recent years. Peer bullying; bully, victim, bully/victim, and nearly half of school-age children are exposed to bullying at some point in their school life (Karatoprak & Özcan, 2017).

Among the important causes of physical and verbal bullying, bullying students see themselves as superior to others; violent bullying behavior takes place as a method used by the victim to find a solution with the thought that he deserves it (Genç, 2007). Occurrence of peer bullying; It can be in the form of different psychological and physical symptoms depending on the situation in the roles of bully, victim or bully/victim (Karatoprak & Özcan, 2017). Juvonen and Graham (2014) state that 20-25% of school-age children can be directly associated with bullying situations as victims, bullies or both. Studies conducted in Europe show that 4-9% of young people exhibit bullying behaviors and 25% are victims of bullying. When the studies are examined in general, the prevalence of traditional bullying is 35% and the prevalence of cyberbullying is 15%.

When the research was examined, it was seen that there were significant differences between the age groups of the prevalence and forms of bullying, although not directly. Cook et al. (2010) analyzed the results of 153 studies conducted in the past with meta-analysis method. Accordingly, the effect size of age has various levels of effect on bully, bully/victim and victim roles. Bullying reaches its peak in the middle school years (ages 12-15) and tends to decrease towards the end of high school (Hymel & Swearer, 2015). When examined as a form, it is seen that there is a transition from physical bullying to indirect and relational bullying with increasing age (Rivers & Smith, 1994).

The widespread peer bullying in schools is an issue that should be dealt with by school officials and education circles. Considering the effects of bullying on children, it is expected that the school community will carry out studies to define the frequency and nature of bullying, to prevent bullying and to fight bullying. Considering the large number of students in schools, the lack of time and the ease of implementation, it is thought that a solution-focused short-term approach will be effective in the fight against bullying (Öztürk Çopur, 2019). At the same time, Gençdoğan (2014) states that classroom or branch teachers, especially psychological counselors and guidance teachers, conduct in-depth interviews about the problems experienced by students and intervene; he states that it is

not possible due to reasons such as lack of time, excess number of students or insufficient number of personnel. Most counselors stop doing therapy altogether because of the many limitations in their school setting. From the point of view of students in schools, Doğan (2000) is of the opinion that students will have difficulty in concentrating on a long-term counseling process in terms of cognitive development and that long-term counseling approaches cannot give effective results on students. Solution-focused short-term therapy is an approach that can be easily used in school environments as an alternative approach to such problems experienced by clients in school environments (Doğan, 2000).

Solution-focused therapy based its philosophy on the search for a solution (Bannink, 2007; Bavelas et al., 2013). Therefore, their techniques are directly focused on solving the person's problem. The miracle question reveals the behavioral purpose of the person and allows him to clarify (De Shazer et al., 2021). Rating questions give the client a chance to discover the point they are at, help them discover the factors that they are affected by, help the person to focus on their success, help embody the goals that are thought to be acquired in the future (Bannink, 2007; Bavelas et al., 2013; Sharry, 2017). Solution-focused short-term therapy emphasizes that, no matter how rare, there is of course an exception to the situation in life. At this point, the function of the counselor is to discover and reveal these exceptional moments that the client does not bring forth in counseling (Berg & Miller, 1992). Coping questions, on the other hand, are another technique that allows the client to discuss the successes and solutions applied to the problems in life in depth during the consultation (Luthar, 2003). Davis and Osborn (1999) draw attention to the fact that the school counselor expresses his belief that students can create change, especially by using their own resources, in the work done with students in solution-focused short-term counseling. By emphasizing the strengths of the students, the school counselor tries to channel the students towards their behavioral goals, which enables students to gain skills to cope with their problems faster than other approaches, especially in issues such as peer bullying.

Çitemel (2014) carried out a study aiming to reduce peer bullying in high school students by preparing a group counseling program that includes the philosophy of solution-focused short-term approach. When the pre-test, post-test and follow-up measurements in the experimental and control groups as a result of the psychological counseling process with the 6-session group are examined, it is seen that there is a significant difference between the averages of the obtained scores. This situation reveals that solution-focused short-term counseling applied to students is effective on reducing peer bullying. Özbay (2017) carried out an experimental and control group psycho-education program based on short-term solution-focused psychological counseling for adolescents who were exposed to cyberbullying to cope with psychological symptoms and cyber victimization. The study is structured so that each session will consist of 90 minutes and last 8 sessions. When the findings are examined, it is seen that there is no significant change in the psychological symptoms and virtual victimization levels of high school students in the control group, while there is a decrease in the psychological symptoms and virtual victimization levels of high school students in the experimental group. As can be seen, these studies examined the effectiveness of solution-focused short-term counseling approach in reducing and correcting the problems that adolescents experience at school. However, such a study has not been encountered with primary school students within the framework of the resources available both in the country and abroad. From this point of view, the aim of this study is to examine the effect of group counseling

based on solution-focused short-term counseling on the level of peer bullying of primary school students who are bullied.

Methods

Research Design

This research is an experimental study. The independent variable of the study is group counseling based on solution-focused counseling, and the dependent variable is the level of peer bullying. In the research, a 2x2 design with pretest-posttest measurement, experimental and control groups was used.

Data Collection Tools

Peer Bullying Scale-Child Form: It was developed by [Pişkin and Ayas \(2011\)](#). The scale consists of five factors in which 37 items are distributed in two parallel forms in order to identify the students who are “bullied” and “who are bullied”. The distribution of the items on the five factors is explained as follows; 1-10 items are physical bully and victim, 11-16 items are verbal bully and victim, 17-21 items are isolation bully and victim, 22-28 items are rumor spreading bully and victim, 29-37 items damage to property bully and victim. The scale was designed as a five-point Likert type. The lowest score a person can give to an item in the scale is zero (I never encounter it), and the highest score is four (I encounter it every day). The lowest score that can be obtained from the bully and victim dimensions of the scale is 0, and the highest score is 148. The higher the score, the higher the level of being a bully and a victim. In the bully scale, the participants are asked to mark how often they do the said words and actions, and on the victim scale, how often they are exposed to these words and actions. In this study, only the form of the scale to identify victims was used. The Cronbach alpha internal consistency coefficient of the victim dimension of the scale was found to be .90. The internal consistency coefficients for the victim subscales of the scale are as follows: .74 for the physical subscale, .66 for the verbal subscale, .68 for the isolation subscale, .79 for the rumor subscale, and .76 for the damage to property subscale ([Pişkin & Ayas, 2011](#)).

Table 1

The Results of Internal Consistency Analysis for the Collected Data

Variables	General	Physical	Verbal	Isolation	Rumor	Damage Property
Results	.938	.822	.759	.676	.720	.899

Process

The sessions here were structured and implemented by three different group leaders. At the beginning of each session, the relevant group leader introduced himself to the group and met the group members. In the last session, the leaders managed and ended the process together.

Session 1: In this session, the group leader introduces himself to the group members. Warm-up activity is done for group members to get to know each other. The leader shares the predetermined group rules with the group

members in order to make the group members feel comfortable and to create an appropriate group counseling environment. The leader explains the general purpose of the group and states that each group member may have different individual goals in line with this purpose. The leader shares his feelings and thoughts about being in the group in line with the goals. The rating scale is filled in by group members. A session summary is made by the group leader and homework is given.

Session 2: The session is started by reminding the homework given by the group leader in the previous session. The rating scale completed by the group members in the previous session is evaluated. Leader defines bullying to group members and applies its effectiveness. The leader explains what can be done when bullying behaviors are encountered and ensures that individual goals are more concrete and understandable and compatible with the general goals of the group. The self-rating technique is applied and after the session is summarized, the session is ended by giving homework.

Session 3: The leader receives feedback from the group members regarding the assignment given in Session 2. The leader asks the group members how they have felt since the last session and makes an overall assessment of the sessions. The leader implements the revival event and the magic globe event. Makes a re-evaluation of the members' self-rating technique. The session is summarized and the session is ended by giving homework.

Session 4: Each group leader makes a general summary of his session. It is forwarded to the group members where it was the last session. Feedback is received from the group members about how they felt as it was the last session. Feedback is received from group members about the situations they have faced with bullying in the last week and their reactions. Anti-bullying case studies are implemented and answers are received. The love bombardment technique is applied and the session is terminated.

Study Group

The study group of the research consisted of students continuing their education in a primary school located in Pamukkale district of Denizli province. In this context, the peer bullying scale was applied to 95 students attending the fourth grade in the relevant primary school. After the application, the scores were ordered from high to low to form the experimental and control group members. Then, two different groups of 10 students were randomly formed, one for the experimental group and one for the control group. The work group is comprised of 10 boys and 8 girls. Additionally, 7 people from the age group of 9, 12 people from the age group of 10, and 1 person from the age group of 11 are participating in the work. However, due to the negative attitudes of a student in the experimental group towards the group and negatively affecting the counseling process with the group, this person in the experimental group was excluded from the group. Accordingly, one person from the control group was reduced, and the experimental and control groups consisted of nine people. Statistical analyzes of the research were carried out on nine people.

Table 2

Demographic Information Related to the Participants of the Study

Variables		Experimental	Control	Total	
		Frequency(n)	Frequency(n)	Percentage(%)	Frequency(n)
Gender	Girl	5	5	55.6	10
	Boy	4	4	44.4	8
Age	9	5	2	38.9	7
	10	3	7	55.6	10
	11	1		5.6	1

Data Analysis

Firstly, an independent samples t-test was deemed appropriate to determine whether there was a difference in peer victimization between the experimental and control groups in the pre-test results. To examine the final results, dependent sample t-test was deemed appropriate, but since the data was collected at different times, the results of the dependent sample t-test increase the error rate. To reduce the error rate, the use of the two-way mixed ANOVA test is considered appropriate, and the study was conducted using the two-way mixed ANOVA. The fact that the model had a 2x2 structure.

SPSS 26 program was used in the analysis of the data. Independent samples t-test was applied to see whether the situation of the victim of peer bullying differentiated in the first place of the experimental and control groups. Afterwards, Two-Way Mixed-Design ANOVA was applied in order to examine the difference between the pre-test and post-test results in the experimental and control groups. The statistical significance level was taken as .05 in the study.

Results**Preliminary analyses**

Before analyzing the data, extreme values were examined in each of the scale items and item combinations, and the missing values in the data set were examined, and it was revealed that the missing values in all data sets were below 5% and did not display any pattern. Then, the normality assumptions of the data were checked first. When the normality values of the data set were examined (Skewness coefficient= 1.20; Kurtosis coefficient= 0.63), it was seen that the values met the normality criteria suggested by [Finney and DiStefano \(2006\)](#). When the data were analyzed, no extreme values were encountered. The victimization of peer bullying is measured at a continuous level and our two within-subject factors involve relevant groups. When the conducted analyses were examined, no significant outlier was found in any combination of the relevant groups. For parametric tests such as ANOVA to be applicable, the dataset must satisfy the assumptions of normality and homogeneity ([Kalaycı, 2014](#)). When examining the results of the Levene test, it can be observed that the assumption of homogeneity of variances is satisfied ($p>0.05$).

Table 3

t-Test Results of Comparison between Pretest Scores of Experimental and Control Groups

Group	N	\bar{X}	St.Dev.	t	p
Experimental	9	58.33	12.13	.809	.430
Control	9	53.61	12.62		

In order to examine whether the experimental and control groups formed from primary school students differ in terms of being bullied, the independent sample t-test was applied to the collected pre-test results. No significant difference was observed in the independent sample t-test result ($p > .05$).

Table 4

Mean and Standard Deviation Scores for Level of Peer Bullying Experienced Pretest and Posttest Scores of Experimental and Control Groups

Group	Pre-Test			Post-Test			F	N^2
	N	X	S	N	X	S		
Experimental	9	58.3390	12.136	9	34.5556	15.914	15.063	.485
Control	9	53.6127	12.629	9	61.6667	29.924		

*** $p < .05$

Two-Way Mixed-Design ANOVA was applied in order to examine whether the students' scores of being bullied differed as a result of group counseling based on solution-focused counseling. As a result of the analysis, a significant difference is observed between the pre-test and post-test scores of the students participating in the study ($p < .05$). Accordingly, the average score of being bullied decreased from 58.33 to 34.55. In order to examine the effectiveness of the group based on solution-focused counseling, pre-test and post-test applications were applied to the control group. According to the results of the Two-Way Mixed-Design ANOVA performed on the control group, no significant difference was detected ($p > .05$).

As seen in Figure 1, the pre-test and post-test results of the experimental and control groups differentiate over time. According to this figure, while the bullying victimization of the individuals in the experimental group decreases, a slight increase is observed in the bullying victimization of the individuals in the control group.

Figure 1

Two Way Anova Graph of Experimental and Control Groups for Level of Peer Bullying Experienced Scores

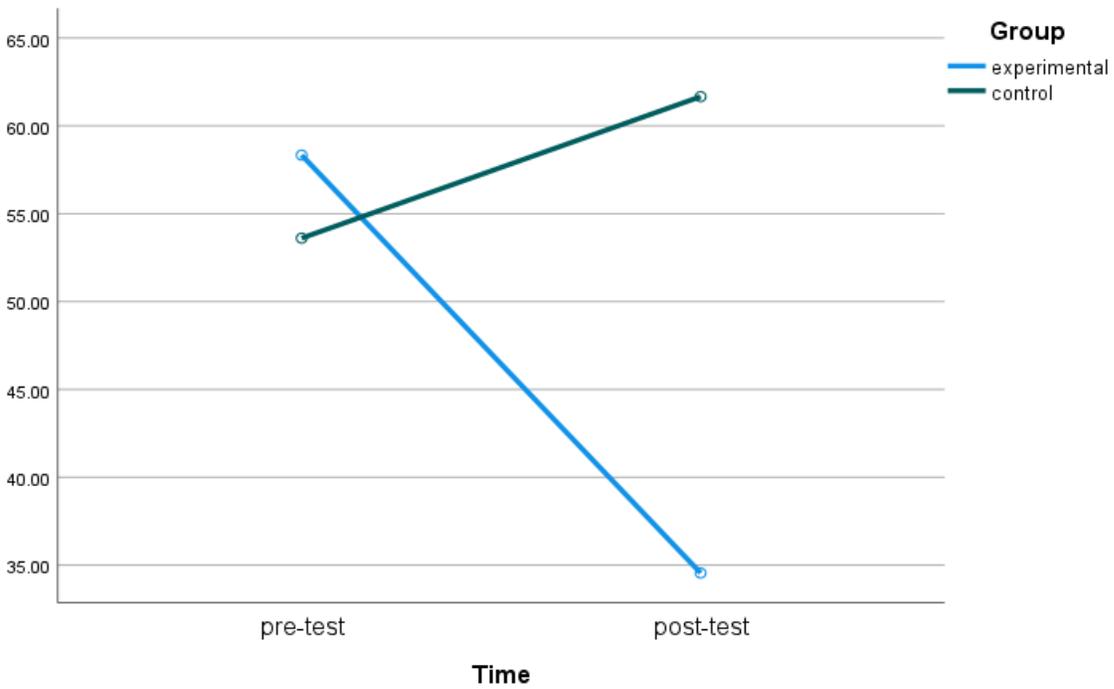


Table 5

ANOVA Results of the Pretest and Posttest Scores of the Experimental and Control Groups for Level of Peer Bullying Experienced

Source of the Variance		Sum of Squares	Sd	Mean Square	F	Sig (p)
Level of Peer Bullying Experienced	Time	556.684	1	556.684	3.677	.073
	Time*Group	2280.649	1	2280.649	15.063	.001
	Error	2422.476	16	151.405		

When the results of the two-way ANOVA test were examined, it was observed that the level of bullying victimization did not change over time. However, when the experimental and control groups were formed, it was observed that the victimization level of the experimental group differed significantly in a meaningful way. To examine in which sub-dimensions this differentiation occurred, different analyses are needed.

Table 6

*ANOVA Test Results for Pre-Application and Post-Application Sub-dimensions of the Experimental Group According to the Time*Group Variable.*

Dimension	Sum of Squares	df	Mean Square	F	Sig.(p)	N ²
Physically	28.171	1	28.171	2.347	.145	.025
Verbal	87.044	1	87.044	11.317	.004	.414
Insulation	94.303	1	94.303	15.077	.001	.500
Rumor	162.337	1	162.337	14.603	.002	.477
Damage to Property	113.778	1	113.778	44.507	.129	.138

When the sub-dimensions of the scale applied were compared with the pre-test and post-test results, significant differences were detected in the experimental group participants, except for physical bullying and damage to property, and no difference was observed in the results of the control group, except for spreading rumors.

Discussion

Group counseling based on solution-focused short-term counseling is used in various fields (Dielman & Franklin, 1998; Franklin et al., 2001; Franklin et al., 2008; Gingerich & Wabeke, 2001). One of these areas is its use in schools. According to Meydan (2013), solution-focused psychological studies in schools seem to be effective. When the literature is examined, within the framework of available resources, group counseling based on solution-focused short-term counseling of peer bullying was carried out at secondary and high school levels, but not at primary school level. This constitutes a limitation as the studies cannot be generalized to all levels. At this point, it is thought that group counseling based on solution-focused counseling for the victims of peer bullying contributes to the literature.

In this study, the effect of group counseling based on solution-focused short-term counseling on the level of peer bullying of primary school students who are bullied is examined. When the results of the research are examined, there is a significant difference in other dimensions, except for physical bullying, in the participants in the study. When the results of the control group are examined, no significant difference is observed in any sub-dimension except for spreading rumors. When the results of the analysis in the control group are examined, it is seen that this difference differs in the negative direction, that is, in the form of an increase in rumor spreading. According to these results, group counseling based on solution-focused counseling significantly reduces the level of peer bullying of primary school students who are bullied.

According to Selekman (2005), solution-focused short-term counseling is one of the appropriate choices for families because families want quick solutions to their children's psychological problems and do not want to see their

children experience emotional difficulties. When the process is examined in terms of children, it is argued that long-term psychological counseling sessions cannot be supported by the cognitive development of their children, and therefore an effective result cannot be obtained (Corcoran, 1998; Doğan, 2000). This idea is supported by MacDonald's (2007) view that traditional counseling practices and techniques for adolescents will be limited. In addition, it is presented in the literature that the process of gaining awareness and insight becomes very difficult for a person who cannot reach the abstract operational stage (Birdsall & Miller, 2002). Solution-focused counseling, on the other hand, overcomes this limitation because it is action-focused. In addition, since the technical language is not preferred in the solution-focused counseling process (Lethem, 2002; MacDonald, 2007), it is thought that it will be easy to apply to primary school students. Group counseling based on solution-focused counseling applied here is the strength of the study by overcoming these limitations. On the other hand, it has been observed that solution-focused counseling programs have positive effects on the strengths of the clients. In researches in this direction, the counselor programs based on solution-focused counseling have; It has been found that it increases self-esteem and self-efficacy (Kvarme et al., 2013), hope levels (Smock, 2009), and academic achievement (Daki & Save, 2010).

Young and Holdorf (2003) revealed that the effect of solution-focused short-term approach on bullying is effective at primary and secondary school levels. When the literature is examined, it is seen that solution-focused short-term approach-based group counseling programs; in reducing peer bullying in high school students (Çitemel, 2014) and secondary school students (Banks, 1999), in reducing psychological symptoms and cyber-victimization in adolescents exposed to cyberbullying (Özbay, 2017), in increasing adolescents' coping skills against peer bullying (Öztürk Çopur & Kubilay, 2022), making victim students feel happier and safer (Kvarme et al., 2013), reducing behavioral problems in the classroom (Franklin et al., 2001, Franklin et al., 2008) and increasing academic achievement (Newsome, 2004). At the same time, according to Gingerich and Wabeke's (2001) study, solution-focused short-term counseling practices carried out in schools have effective results in different mental health areas such as substance use, attention deficit and hyperactivity disorder, oppositional defiant disorder, conduct disorders, anxiety and depression. Due to the results of the research, the outputs of the applied group work are supported by the literature.

This study was carried out with data obtained from 95 students in a primary school in Denizli city center. At this point, it creates a limitation in the generalization phase of the data. The study should be re-applied in different sample groups and the results should be examined. In this way, a more comprehensive result can be obtained. The applied group psychological counseling program covers children between the ages of 9-11. Children in this age group can very quickly accept what the group leader says and accordingly reflect this on the test results. In order to avoid this situation, it is a limitation for the study that people do not internalize what they have learned in the group counseling practice by conducting a follow-up session. Due to its structure, solution-focused counseling does not aim to bring about a structural change in people. At this point, although the group counseling work gives meaningful results, it is not known what kind of result it will show in the future (Selekman, 2010). At this point, longitudinal studies are needed. Bullying is associated with physical violence, verbal violence, isolation, damaging property, spreading rumors and cyberbullying. The scale applied in the research measures other sub-dimensions except for cyberbullying (Monks & Smith, 2006; Olweus, 1999). At this point, the field of cyberbullying, which has been

popular in recent years, is not within the scope of the scale. Group counseling sessions based on solution-focused counseling about cyberbullying can be prepared and applied to students of similar ages. This study has important implications for school counselors. Students who are exposed to and practice bullying at schools can be identified by psychological counselors and used to cope with this problem in schools. Thus, preventive studies can be applied regarding the problems caused by students who are bullied or who practice bullying.

Ethic

We declare that the research was conducted in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

Author Contributions

This article was written with the joint contributions of four authors.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Factors Affecting Teachers' Academic Optimism in Secondary Schools

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Abstract

Academic optimism is a vital concept that can help schools overcome the challenges posed by students from low socioeconomic backgrounds. This study investigates the factors that influence the academic optimism of secondary school teachers. Using a phenomenological approach, we collected data through focus group interviews with principals and teachers, employing the maximum variation sampling technique to ensure diverse perspectives. Our analysis revealed three themes that affect teachers' academic optimism: self-efficacy, academic emphasis, and trust in students and parents. Notably, our findings indicate that teachers' experiences of success or failure are the most significant determinant of their academic optimism. Based on these results, we propose actionable strategies to enhance teachers' self-efficacy, ultimately promoting academic optimism in secondary schools.

Key Words

Academic optimism • Faculty trust • Teacher efficacy

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Educators and researchers have long been interested in determining the effectiveness of schools. Recently, the concept of academic optimism has gained attention as a significant construct that can help schools overcome the disadvantages faced by students from low socio-economic backgrounds. Hoy et al. (2006) developed the concept of academic optimism while studying effective schools in response to the Coleman report (Coleman et al., 1966), which found that socioeconomic status was the primary factor determining student success and that school-related factors played a smaller role. Academic optimism is now an established concept.

The concept of academic optimism is deemed a vital aspect that influences the teaching environment in schools, and various studies have investigated its impact on student success (Ateş & Ünal, 2021; Bevel & Mitchell, 2012; Boonen et al., 2014; Hoy & Miskel, 2012; McGuigan & Hoy, 2006; Straková et al., 2018; Wu et al., 2013; Wu & Lin, 2018). The structure of academic optimism revealed by Hoy et al. (2006) is based on Bandura's social cognitive and self-efficacy theories, Coleman's social capital theory, Parsons' organizational health theory, Hoy, Tarter, and Kottkamp's culture and climate studies, and especially Seligman's learned optimism study.

Seligman's study emphasizes that pessimism can lead to self-fulfilling prophecies, while optimism can lead to success, both at the individual and organizational levels. Hoy et al. (2006) argue that optimism is a powerful force for success, and that this idea is reflected in the structure of academic optimism they proposed. Academic optimism has existed not only at the school level but also at the individual teacher level (Beard et al., 2010; Hong, 2016; Woolfolk Hoy et al., 2008), and is considered one of the most important teacher and school characteristics that affect the learning environment and students' success (Ergen & Elma, 2018).

School Academic Optimism

School academic optimism is a shared belief among teachers that schools can contribute to student success, that they can collaborate with students and parents to achieve academic success, and that academic success is important (McGuigan & Hoy, 2006). School academic optimism emphasizes the importance of creating a positive school environment to make learning effective, strengthening students' beliefs about learning, considering academic success as the main purpose of the school, and promoting strong cooperation among the school staff (Hoy et al., 2006). School academic optimism assumes that school staff feel a high level of student achievement and a shared sense of purpose for learning (McGuigan & Hoy, 2006).

Academic optimism highlights the potential for schools to overcome the challenges of socio-economic factors that can impede student achievement and focuses on potential rather than problems. Those who work in a highly academically optimistic school believe that they can make a difference, that students can learn, and that academic success can be achieved. Each teacher sees the students as capable, parents as supportive, and the teaching task as achievable (Hoy et al., 2006). In this context, the academic optimism of the school brings to the forefront the belief that "school staff can effectively achieve the goals related to student learning through collaboration" (Cansoy & Parlar, 2018).

Academic Emphasis. Academic emphasis refers to teachers' behaviors that focus on student success, depending on their efficacy and trust beliefs (Hoy & Miskel, 2012). Hoy et al. (2006) defined academic emphasis as the

pressure for academic achievement and the degree to which the school is driven by the pursuit of academic excellence. [Goddard et al. \(2000a\)](#) explained it as the belief that academic success is important to administrators, teachers, staff, and students. According to [Hoy et al. \(2006\)](#), schools with an academic emphasis set high but achievable academic goals for students; the learning environment is orderly and serious; students are motivated to work hard, and students respect academic achievement. In this context, schools that emphasize academic success prepare and implement regular and serious learning environments. Teachers in these schools set high but achievable learning goals and expectations. Student learning and success are the primary focus of all group members, as well as the main idea of the school. Teaching time is protected and highly valued. Teachers believe that their students can learn and be successful, and in the same way, students believe that all teachers care about and emphasize academic success. Students who devalue or humiliate their academically successful peers are quickly warned ([Goddard et al., 2000a](#)).

Collective Efficacy. Collective efficacy refers to teachers' assessments of the school's teaching staff's ability to plan and implement actions that positively impact student achievement ([Goddard et al., 2004](#)). Teachers' perceptions that they can improve students' learning are based on Bandura's social cognitive theory and self-efficacy research ([Hoy & Tschannen-Moran, 1999](#); [Reeves, 2010](#)). When teachers work together as a team, they can help students succeed ([Wu & Lin, 2018](#)). Collective efficacy gives teachers confidence that they can work effectively with students despite challenges, motivates them to achieve challenging goals and continues until teachers are successful ([Goddard et al., 2000b](#)).

In schools with a strong sense of collective efficacy, teachers serve as models for each other, sharing responsibility, committing to shared beliefs, and learning from each other ([Goddard et al., 2000a](#)). Teachers' perception that they control themselves and their colleagues influences their actions, which are evaluated by the group according to group norms. As a result, collective efficacy affects personal perceptions and group norms, which in turn affect actions ([Goddard et al., 2000a, b](#)). Teachers who have strong collective efficacy beliefs not only establish higher expectations but also invest more effort in attaining them and exhibit greater resilience when confronted with obstacles, as stated by [Tschannen-Moran and Hoy \(1998\)](#). Therefore, schools with high collective efficacy beliefs accept challenging goals and show strong organizational effort and perseverance to increase student success ([Goddard et al., 2000a](#)).

Trust in Students and Parents. Having trust in students and parents is crucial for improving learning outcomes. Teachers, parents, and students should work together cooperatively ([Hoy & Miskel, 2012](#)). This involves establishing open, sincere, and reliable relationships between school staff, parents, and students, with the goal of enhancing student learning ([Hoy et al., 2006](#); [Hoy & Tschannen Moran, 1999](#)).

Trust between teachers, parents, and students is a collective effort that is shared at the school level, similar to academic emphasis and collective efficacy ([Van Maele & Van Houtte, 2009](#)). In a trusting relationship, both parties should be vulnerable and trust that the other is competent, reliable, honest, and open ([Goddard et al., 2001](#); [Hoy & Tschannen-Moran, 1999](#)).

When teachers trust their students and parents, they believe that parents can encourage high academic standards without fear of harming them. This emphasis on high academic standards strengthens teachers' trust in parents and students (Hoy & Miskel, 2012; Woolfolk Hoy et al., 2008). Strengthening teacher trust can have a positive impact on their commitment, making them more conscious and willing to participate in the learning process (Goddard et al., 2000a, b).

Teacher Academic Optimism

Academic optimism is a set of positive beliefs that teachers have about their ability to teach all students, build strong relationships with students and parents, and prioritize academic tasks (Beard et al., 2010; Kurz, 2006; Woolfolk Hoy et al., 2008). Teachers who possess academic optimism are engaged, committed, energetic, resilient, and conscientious, and they achieve these qualities not through pressure and punishment but through cooperation and building connections with their students (Woolfolk Hoy et al., 2008).

One important component of academic optimism is the teachers' perception of self-efficacy, which refers to their belief in their ability to influence their students' learning and achievement, even for those who struggle or lack motivation (Tschannen-Moran & Hoy, 1998; Woolfolk Hoy et al., 2008). When teachers have high self-efficacy perceptions, they set high expectations for their students, put in more effort, and prioritize academic goals (Tschannen-Moran & Woolfolk Hoy, 2001).

Another component of academic optimism is teachers' trust in their students and parents. Teachers who trust their students' openness, ability, and honesty are more likely to create a learning environment that facilitates academic success (Tschannen-Moran, 2014). This trust relationship includes feelings of benevolence, reliability, competence, honesty, and openness (Hoy & Miskel, 2012). When teachers trust students and parents and establish a relationship of trust, they are more likely to work in cooperation with them to overcome any problems that may arise during the teaching process (Woolfolk Hoy et al., 2008).

The third component of academic optimism is teachers' academic emphasis, which refers to the belief that their students can achieve academic success, and that the learning environment is orderly and serious (Goddard et al., 2000a). Teachers with high academic emphasis prepare challenging teaching activities for their students, force their students to participate in academic activities, provide effective classroom instruction, and prioritize academic goals (Woolfolk Hoy et al., 2008). The level of effort and success of teachers put into ensuring that their students participate in academic tasks indicates the level of academic emphasis they possess (Beard et al., 2010; Kurz, 2006).

In summary, academic optimism is an important construct for teachers, and it consists of three components: teachers' perception of self-efficacy, teachers' trust in their students and parents, and teachers' academic emphasis. By possessing academic optimism, teachers can create a positive learning environment that encourages academic success and maximizes learning time.

The School's Culture of Academic Optimism

Although teacher academic optimism is a personal characteristic, school academic optimism is an essential aspect of the school culture (Beard et al., 2010; Hong, 2016; Woolfolk Hoy et al., 2008). School academic optimism refers

to a school culture where teachers believe that they can make a difference, students can learn, and academic performance can be achieved (Hoy & Miskel, 2012). The academic emphasis, collective efficacy, and trust in parents and students that make up school academic optimism are in mutual interaction (Hoy et al., 2006; Hoy & Miskel, 2012). When teachers believe that they can teach their students successfully, trust their parents and students, and focus on student success at school, the resulting normative behavior environment shows their effectiveness, trust, academic emphasis, and ultimately academic optimism (Wu & Lin, 2018). Academic optimism is a culture with shared beliefs and norms that sees teachers as capable, students as willing, parents as supportive, and academic success as attainable (Hoy & Miskel, 2012). A school with high academic optimism is expected to have a positive normative culture that will increase teachers' academic optimism and trust in parents and students, and emphasize the higher academic achievement of students (Hong, 2016).

Optimism provides a third perspective on success, apart from talent and motivation. The concept of academic optimism offers possibilities for learning and change in schools. A pessimistic school environment can change, teachers can learn to be optimistic, and administrators and teachers can be empowered to be optimistic, instead of being trapped in socioeconomic factors that create a sense of hopelessness and cynicism (Hoy & Miskel, 2012). Schools with high academic optimism often form a culture of perfectionism, which includes teacher cooperation, a strong community, and high expectations for student success (Best, 2014). Creating a culture of academic optimism requires increasing common competence, building mutual trust, and strengthening academic emphasis (Hoy & Miskel, 2012). Teachers and students must experience academic success, see successful models in stress-free environments and believe in themselves and their abilities to achieve success (Hoy & Miskel, 2012).

Although research has been conducted on many issues related to academic optimism, more research is needed to better understand teacher academic optimism and develop academic optimism theory in schools (Hoy et al., 2006; Hoy & Miskel, 2012). Academic optimism is associated with student achievement, and research has been conducted on many issues related to academic optimism, such as student academic success, professional commitment, factors that contribute to school development, distributed leadership, organizational climate, teachers' academic optimism, social justice leadership, and bureaucratic structure (Ateş & Ünal, 2021; Bevel & Mitchell, 2012; Boonen et al., 2014; Straková et al., 2018; Kurz, 2006; Best, 2014; Cansoy & Parlar, 2018; Kılınç, 2013; Reeves, 2010; Feng & Chen, 2019; Özdemir & Kılınç, 2014). Therefore, determining the characteristics of schools that affect teachers' academic optimism can help us understand why academic optimism differs between schools, determine causal relationships between academic achievement and academic optimism, and find ways to improve teachers' academic optimism. It is also important to consider culture-specific factors that may affect teachers' academic optimism in different contexts, such as Turkey, to identify and eliminate problem areas in schools.

Aim of the Study

The study aims to identify the factors that influence academic optimism among teachers in secondary schools. To achieve this objective, we will explore the question: "What factors contribute to the development of academic optimism among secondary school teachers?"

Method

Research Model

The research was carried out in the phenomenology pattern, which is one of the qualitative research methods. This design was preferred because it revealed the factors affecting academic optimism in secondary schools according to the experiences of school principals and teachers.

Study Groups

The study participants were school principals and teachers working in secondary schools. Data were collected through focus group interviews held separately for each group. The maximum variation sampling method was used to determine the school principals and teacher groups based on criteria such as the number of students in the school, the socio-economic structure of the environment where the school is located, branch, gender, teaching, and managerial seniority. School principals and teacher groups both consisted of seven participants. Since no female school principal is working in secondary school, there is no female participant in the school principals group. The teacher group consists of five men and two women. While the research was planned that the participants would consist of three men and four women.

Participants in the study were identified using a coding system, where the letter "P" indicates the school principal and "T" indicates the teacher. The number following the letter indicates the sequence number in which the participant's personal and professional characteristics are presented in Table 1. The table includes information on the participant's gender, tenure at school, teaching experience (year), management seniority, socio-economic status of the school's environment, number of immigrant or refugee students in the school, and the average number of students in classes.

Table 1

Personal and Professional Characteristics of the Working Groups

Code	Occupation	Gender (F/M)	Working Time at School	Teaching Experience	Management Seniority	The Socio-economic Status of the School's Environment	Number of immigrant or refugee students in school	Average Number of Students in Classes
P1	Principal	M	3	22	19	High	63	46
P2	Principal	M	3	25	17	High	4	45
P3	Principal	M	2	29	25	High	—	35
P4	Principal	M	2	20	11	Low	50	25
P5	Principal	M	2	22	2	Medium	5	30
P6	Principal	M	3	21	12	Medium	14	32
P7	Principal	M	2	17	10	Low	3	11
T1	Teacher	M	3	5	2	High	63	46

T2	Teacher	F	1	8	—	Medium	7	35-40
T3	Teacher	M	4	8	—	Medium	14	32
T4	Teacher	F	7	24	—	High	—	45
T5	Teacher	M	3	10	—	Low	50	25
T6	Teacher	M	3	15	—	Medium	14	32
T7	Teacher	M	3	13	—	Medium	14	32

Data Collection

Before the focus group meetings, participants were provided with a three-page briefing note and interview questions explaining the concepts of optimism, academic optimism, self-efficacy, teachers' trust in parents and students, and teachers' belief in the importance of academics. This was performed 5 days before the interview to ensure that the participants were informed and adequately prepared. The second researcher acted as the moderator for the focus group discussions, and asked the same question to both groups. It was "What are the factors affecting the academic optimism of teachers in secondary schools?"

The interviews were recorded on video, with the first interview conducted with school principals. Although the meeting lasted for 110 min, 9 minutes of off-topic conversation were removed, resulting in 5164 words. The interview with teachers lasted for 148 min, with 43 minutes of off-topic talk removed, resulting in 5204 words.

Data Analysis

The analysis process involved both inductive and deductive approaches. Induction and deduction were used together to reach a series of facts and findings that were broadly compatible with generalizations in line with [Miles and Huberman's \(2015\)](#) suggestion. Deductive analysis was used to study a known phenomenon, and the dimensions of self-efficacy, academic emphasis, and trust in students and parents, which make up the academic optimism of teachers, were chosen as the main categories.

The second stage involved inductive analysis, which served to reveal the phenomenon holistically. The analysis process followed the stages of sorting, coding, categorizing, and defining. The video recordings were watched, and the sections related to the study were written down word for word. The first researcher watched the interview repeatedly, paying close attention to the gestures and facial expressions of the participants, to better understand the phenomenon. The data were coded by identifying meaningful units and preserving the integrity of the relationships between them. The first researcher categorized the coded data, and then both researchers reviewed and finalized the categories in multiple meetings. During these meetings, they decided to combine some categories while separating others in order to reach the final set of categories.

Validity and Reliability

To ensure the internal validity of the study, several strategies were used, such as the participation of multiple researchers, participant validation, and appropriate data collection. Both researchers participated in the focus group discussions, and the second researchers also acted as an expert and checked the consistency of the data during the analysis process. Participant validation was attempted by sending the transcript of the focus group meeting to the participants and asking for their opinions and suggestions. Only one participant responded, and their feedback was taken into account. It was also ensured that all ideas and suggestions of the participants were discussed in both focus group meetings, and the data reached the saturation point.

The first researcher had several biases due to his experience as a teacher and school principal, but both researchers tried to remain aware of these biases throughout the research process. To ensure external validity, the emotions, thoughts, and descriptions of the participants were presented richly and intensely, and examples were given without any abbreviations. The selection of participants from various schools and with different characteristics also increased external validity. Ethical precautions were taken by obtaining a Volunteer Consent Form from the participants and keeping their demographic information confidential.

To summarize, the study employed various strategies to ensure internal and external validity and avoid ethical problems. The biases of the first researcher were acknowledged and addressed, and participant validation was attempted. The presentation of the findings was also designed to increase external validity.

Results

The factors that affect teachers' academic optimism in secondary schools were identified based on the themes of self-efficacy, academic emphasis, and trust in students and parents, which constitute teacher academic optimism. The following explanations provide a summary of the themes, and Table 2 provides a clear overview of the themes and sub-themes for easy reference.

Table 2

Factors Affecting Teachers' Academic Optimism in Secondary Schools

Factors Related to Self-Efficacy	Factors Related to Academic Emphasis	Factors Related to Teacher's Trust in Students and Parents
<ul style="list-style-type: none"> • Personal Characteristics of the Teacher <ul style="list-style-type: none"> • Seniority • Gender • Classroom Management Experience • Success Experience • Private Life • Professional development • Physical Characteristics of the School • School Equipment 	<ul style="list-style-type: none"> • Management <ul style="list-style-type: none"> • Supportive Behavior • Fair Behavior • Recognition • Communication skills • Participatory Management • School Culture • Transition System from 	<ul style="list-style-type: none"> • Demographic Characteristics of Students <ul style="list-style-type: none"> • Number of immigrant or refugee Students • Number of Inclusion Students • Students' Health Problems • Grouping by academic achievement • Socio-Economic level of the Parent • Parental Intervention in Teacher's

	Primary Education to Secondary Education	Work
• Number of Students in the School	• Parents' Expectations from the School	• Confidence of Parents and Students in School and Teacher
• The School's Teaching Style	• Trust in School Administrators	
• Number of Students in Classes		
• Teacher Performance Evaluation System		

Factors Affecting Teachers' Self-Efficacy

Several factors have been identified as contributing to the academic optimism and self-efficacy of secondary school teachers. These include personal characteristics of the teacher, the school's organization and order, equipment, class and school size, teaching style, and the performance evaluation system. Understanding these factors is important for promoting teacher self-efficacy and improving the quality of education in secondary schools.

Personal Characteristics of the Teacher

Factors related to self-efficacy personal characteristics of the teacher, including seniority, gender, classroom management experience, success experience, private life, and professional development, were found to impact teachers' self-efficacy.

Seniority. The relationship between seniority and self-efficacy perception among teachers was explored, with two different viewpoints emerging. The first viewpoint posits an inverse relationship between seniority and self-efficacy, with teachers' perceptions of their own self-efficacy decreasing as their seniority increases. Participants who hold this view believe that senior teachers may struggle to keep up with changes in technology, decreasing their self-efficacy perception and potential burnout. Another argument made from this perspective is that teaching is a profession better suited to younger people.

"...They are closed to change because their equipment is insufficient in terms of technology." P5

"As people get older, their energy decreases. ... I do not find it appropriate to teach until senior age because even visually, the student likes the young teacher. For example, when I was younger, I wanted to have a hum in the classroom and that boosted my motivation, ... now I don't like noise at all and I always tell kids to be quiet, and I don't like what I'm doing." T4

The second viewpoint challenges this inverse relationship and suggests that self-efficacy perception can be low among both senior and junior teachers. Some participants noted that senior teachers may actually work harder and be more dedicated to their profession than younger teachers. The socio-economic status of the school and its students may play a role in the relationship between seniority and self-efficacy perception.

"I have many teachers working their 35th year at our school. I never want them to go. They work harder than younger teachers. The teacher, who has just completed his fourth year, has feelings of burnout." P3

These viewpoints suggest that the relationship between seniority and self-efficacy perception is complex and multifaceted. Factors such as technology proficiency, energy levels, student demographics, and personal motivation may all contribute to the self-efficacy perception of teachers.

Gender. The principal and teacher groups had differing opinions on whether gender affects teacher self-efficacy. All participating principals agreed that female teachers exhibited high levels of academic optimism due to their dedication and competitiveness.

"When I think about the teachers at my school, I see that female teachers are more optimistic. Women see their students as their own children and try harder," said one principal (P2). Another principal (P5) remarked that *"female teachers compare themselves more with other teachers and attach great importance to this situation. This increases their motivation and compels them to compete and work harder."*

In the teacher group, some participants suggested that men has higher self-efficacy due to their leadership characteristics and having less social roles that women do.

"I ... think that men have a more academic optimism than women in secondary schools due to the leadership characteristics of men and the high social roles of women," said one teacher (T5).

Although the discussions centered around academic optimism rather than self-efficacy directly, the consensus was that competition and the need for greater effort play a role in both concepts.

Classroom Management Experience. During the discussions in the teachers' group regarding the relationship between teachers' academic optimism and gender, it was mentioned that female teachers in secondary schools, particularly in the higher grades, have low self-efficacy perceptions. One reason cited for this was the difference in student behavior toward female teachers, and the perception that female teachers lack sufficient classroom discipline skills. However, it was observed that classroom management skills were just as relevant as gender in determining a teacher's self-efficacy perception. Teachers who excel in classroom management tend to have a positive perception of their self-efficacy, whereas those who struggle with it tend to have a negative perception.

"When considering my current school, I recognize that many female teachers are more successful and competent in their classes than male teachers. I believe that it is a matter of personality, and I do not think it is appropriate to separate teachers based on their gender." T2

The experience of Success. Teachers' experiences of success or failure in their past practices affect their self-efficacy perceptions.

For instance, one teacher (T3) shared his experience of working in a school with illiterate students, where they could help three of their 6th-grade students graduate from high school. This experience increased their self-efficacy perception and provided a sense of accomplishment.

On the other hand, another teacher (T6) shared his experience of trying to help a student who didn't bring a notebook and pen, but eventually stopped trying after feeling that his couldn't do anything more. This experience decreased their self-efficacy perception.

These expressions demonstrate that success or failure, particularly in challenging circumstances, can significantly impact a teacher's self-efficacy perception and motivate or discourage them from continuing their efforts.

Private Life. According to the participants, the family structure and socioeconomic status of teachers impact their self-efficacy perceptions.

One teacher (T3) shared that economic problems due to credit card debts had a negative effect on their psychology, leading to unprofessional behavior toward students. Another teacher (T6) highlighted the importance of having a peaceful family life and good relationships with family members and neighbors, which can enable teachers

to focus better on their work. Both quotes demonstrate that income and family life can affect teachers' self-efficacy beliefs.

Professional development. The participants expressed a general consensus that professional development has a positive impact on teachers' self-efficacy. One participant (T6) emphasized the importance of continuing education and staying up-to-date with the latest information to keep pace with the rapidly evolving education system. They noted that failure to do so can lead to a sense of disconnection from the profession.

Physical characteristics of the school

The physical characteristics of the school can impact teachers' self-efficacy, as highlighted by the following statements related to the organization and orderliness of the school and the cleanliness of the physical environment:

"first, I believe that the physical environment of a school should be good. If the physical environment is good, students and teachers come to school happily." T2

"Physical conditions are also critical. No one works motivated in a run-down school." P1

School equipment

School facilities and equipment play a significant role in shaping teachers' academic optimism and self-efficacy. According to the participants, having access to workshops, laboratories, and gyms in schools makes lessons more effective and efficient.

For instance, a technology and design teacher (T2) stated the importance of having a workshop in school to teach subjects more efficiently. They explained that if they had access to a workshop environment, students would be more enthusiastic and willing to attend lessons. Similarly, the use of modern course tools and materials such as smart boards and internet connections has a positive impact on teachers' self-efficacy beliefs. T5, an English teacher, shared how the smart board applications carried out in schools under the FATİH Project impressed them and made feel more capable, successful, and satisfied in their job.

The number of students in the classes

The size of a class is a significant factor affecting self-efficacy. According to the participants' opinions on this matter, a class size of more than 30-35 students creates a sense of anxiety among teachers, making it difficult to maintain classroom control, track students' progress, and allocate sufficient time to each student. Consequently, teachers' motivation and academic optimism levels decrease when the number of students increases beyond a certain point.

On the other hand, when the number of students is very low, teachers may feel bored and ineffective, especially when students lack interest in the lesson. For instance, a teacher in a village school expressed dissatisfaction with the situation where the number of students was below 10, stating that teaching such classes was tedious. However, it is worth noting that the opinions of teachers in the study centers differ from this view. The experience of participant T3, who taught in a special education course, indicated that the small class size (6-7 students) made communication with students easier and improved academic success. Nevertheless, it is challenging to determine whether the benefits of a small class size apply to public schools as the preparation of students for exams is the primary goal of study centers.

In summary, a class size that is too large or too small can negatively affect self-efficacy. Therefore, the number of students in a class should be appropriate to maintain the teacher's academic optimism and motivation levels.

The number of students in the school

According to the participants, the ideal number of students in a school should be between 300 and 850. One school principal shared his experience, stating that he had control over the school when the number of students was around 800-850, but he had trouble managing the school with 1200 students.

"Last year, there were around 800-850 students at our school, I thought I controlled them all and dominated the field. This year, the number of our students is 1200, and I do not have the same sense of control" P5

In larger schools with more students, maintaining cleanliness, discipline, security, and the smooth running of education takes precedence over academic success. The principal (P2) of a crowded school emphasized this point, stating that their school had 2550 students and they prioritize these issues before academic success.

For adequate participation in competitions and social activities at schools, a minimum of 300 students is expected. One participant (P7) suggested that there should be at least three branches, meaning at least 300 students per grade level, to ensure sufficient participation in various sports clubs and competitions.

The School's Teaching Style

Due to the lack of schools in Turkey, a group of students from morning to noon and a group of students from noon to evening are allowed to serve as two separate schools. This practice is called a dual education system. Teaching in a dual education system can have a negative impact on the academic optimism of teachers, as they must arrive early and leave late from school. This results in many teachers not wanting to teach the first and last lessons of the day.

As explained by participant P4, dual education often requires students to wake up very early in the morning and travel long distances to get to school. As a result, they may struggle to focus during the first few lessons of the day, which can also affect the motivation and enthusiasm of their teachers.

According to participant P5, many teachers and students alike tend to prefer avoiding lessons during the first and last few hours of the day in a dual education system. This suggests that the teaching style and scheduling of dual education need to be revised to better support the needs and well-being of teachers and students alike.

Teacher Performance Evaluation System

Both teachers and school principals have reported that implementing a performance evaluation system with clear results has a positive impact on teachers' academic optimism.

"Having a performance evaluation system increases teachers' academic optimism levels. Some teachers are highly effective and try to excel in their jobs, whereas others may be average. Teachers are aware of their own performance, but when evaluations are conducted, they are prompted to reflect on their work and strive to become more successful. The evaluation system needs to produce clear results," said one school principal (P1).

T1, a teacher who considers himself successful and hardworking, stated: *"I believe that even the performance ratings given by our principal for the first time last year have been effective. At our school, it has had a significant impact. My principal gave me a grade of 100, which assured me that I am on the right track. Teachers need feedback to feel academically optimistic."*

Factors Related to Academic Emphasis

Factors related to academic emphasis are embedded within the themes of management practices, school culture, the transition system from basic education to secondary education, parents' expectations from school, and trust in school administrators. In addition, five sub-themes have been identified under the main theme of factors related to management practices.

Management applications

The factors related to management practices are encompassed by the following sub-themes: supportive behavior, fair treatment, recognition, communication skills, and participatory management.

Supportive Behavior. School principals can increase the academic emphasis of teachers by emphasizing and supporting their activities and events. As teacher (T2) stated, *"When I request support from the principal and they stand behind me, I believe that success will follow."*

Fair Behavior. Fairness in the behavior of principals is an important factor that can affect the academic emphasis of teachers. When principals behave fairly, it can increase the academic emphasis of teachers, while unfair behavior can cause discomfort among teachers and distract them from their work.

"Teachers must have confidence in the fairness of school administration to act accordingly." P5

"I believe that the source of unrest among teachers is the lack of fairness in the principal's behavior. When the principal distributes teaching schedules and shift days fairly among teachers, it contributes to a peaceful and harmonious school environment." P6

Recognition. Recognition and appreciation of teachers' successful work by school management, parents, students, or their colleagues can increase their academic emphasis. T3 mentioned that even the school principal's suggestion of their name for this research was an honor.

"When you receive praise or hear positive feedback, it can be motivating. When students, parents, school administrators, and their colleagues all have something positive to say about your work, it can bring a sense of happiness and inspire you to work even harder." T6

Communication skills. The communication skills of the principal can impact the academic emphasis of teachers. When the principal communicates with teachers in a way that shows care and respect, it can increase the teacher's academic emphasis. In addition, when teachers feel at ease when going to the classroom, it can further enhance their academic emphasis.

"The effective communication skills of the school principal can play a significant role in boosting the academic emphasis of teachers. By showing care and respect toward teachers in their communication, the principal can motivate them to work harder. For instance, greeting teachers standing up and bidding farewell standing up may seem like small gestures, but they can make teachers feel important and valuable, and increase their respect and love for the principal. As a result, teachers leave the principal's office feeling motivated and ready to teach their students." P6

Participatory Management. The academic emphasis of teachers is increased when the school principal adopts a participatory management approach and involves the teachers in decision-making. According to P1, for teachers to feel that the school is their own, teamwork is essential. Rather than leading the school with a team of a few individuals, the principal should observe and identify the interests and talents of each teacher and allow them to

contribute to those areas. This way, teachers can express themselves better and feel more motivated to contribute to the school.

P6 also emphasized the importance of involving teachers in decision-making, as it improves their academic optimism. When teachers feel that their opinions and suggestions are considered, they are more likely to stand behind their decisions and work harder toward achieving academic goals.

However, participants also mentioned that the involvement of the Ministry of National Education in decision-making is equally important in increasing academic emphasis. Many participants expressed their dissatisfaction with the Ministry of National Education's lack of consideration of teacher suggestions, which negatively affected their optimism toward academic work. As P2 stated, when teachers realize that their suggestions are not taken into account, they may lose motivation and not want to contribute.

School Culture

The school's optimistic culture, which emphasizes academic success, increases the optimism and academic emphasis of the teachers. When the school culture focuses on strong achievement, teachers feel compelled to keep up with it, thereby increasing their academic emphasis.

"A school with a reputation for academic excellence has a positive effect on the academic optimism of teachers, especially those who are new to the school. New teachers immerse themselves in the school's culture, express themselves and adapt to the school's culture. The reputation and culture of the school greatly impact a teacher's motivation." P3

Transition System from Primary Education to Secondary Education

During the 2016-2017 academic year, the transition to secondary education in Turkey was determined by central exams known as TEOG, which were held in both semesters of the final year. The exam consisted of 20 questions from six courses. Currently, a similar exam called LGS, is held once a year and is used for transition to secondary education, but many students still take the exam. In both cases, students, parents, and school administrators tend to place more emphasis on the courses that are included in the exam, neglecting the courses for which no questions are asked. This practice reduces the academic emphasis of the teachers of those courses, causing demotivation and a decline in morale.

"For example, students tend to ignore assignments in courses such as technology design, where no questions are asked in the exam, and parents may even pressure teachers to give students undeserved grades in other courses. Teachers become demotivated when they must compromise their standards to accommodate external pressures. This can lead to students openly questioning the relevance of certain courses, asking inquiries such as, "Why do you care so much about this lesson, teacher?" These negative effects reduce the academic emphasis of teachers and can result in a decline in overall academic success." P6

Parents' Expectations from the School.

The expectations that parents have from the school can influence teachers' academic emphasis. Teachers tend to increase their academic emphasis when parents have high expectations, while low expectations may lead to a decrease in academic emphasis.

"As a teacher, I have noticed that the incoming students' classes in our secondary school are influenced by the parents' socioeconomic backgrounds. When I enter a classroom, I can sense the difference in parents' expectations. Some parents have high expectations, while others believe their child will only work in the industry and do not expect much. These varying levels of parental expectations inevitably affect my motivation and emphasis as a teacher." T6

Trust in School Principals'

According to the participants' opinions, teachers' trust in the school principal has a significant impact on their academic optimism and emphasis. When teachers trust their principal, they tend to be more courageous, whereas a lack of trust may lead to caution.

Trusting the school principal means having confidence in their ability to be fair, act as a mediator with parents, support teachers, possess educational expertise, and protect their interests.

"The level of trust in the school principal has the greatest impact on academic optimism. Once, I had to discipline a student, and the parent complained about me to the principal. My principal stood behind me, and it made me delighted, increased my confidence in the principal, and my determination to work. Trusting the principal motivates teachers to love their school and job, and they make an effort to do whatever the principal asks of them. In times of classroom management, student or parent problems, the principal's office is the last resort. Therefore, we should trust the principal academically and expect them to find solutions to problems that we cannot solve. If they cannot solve these problems, they cannot effectively lead the school." - T6

Factors Related to Teacher's Trust in Students and Parents

The factors influencing a teacher's trust in students and parents can be categorized into various themes such as the demographic characteristics of students, the socio-economic level of parents, parental intervention in teacher affairs, and the trust that parents and students have in both the school and teacher.

Demographic Characteristics of Students

The sub-theme of the demographic characteristics of students, which influences teachers' trust in students and parents, includes factors such as the number of immigrant or refugee students, the number of students with disabilities, students' health problems, and the quality of classroom practices.

The number of immigrant or refugee Students. According to the participants, the presence of immigrant or refugee students in a teacher's class and an increase in their number have a negative impact on the teacher's academic optimism.

"Having immigrant or refugee students in class definitely affects academic optimism. The more students there are, the more difficulties arise. These students have different levels of knowledge and need more attention, and they can cause problems in class management." P3

"The increase in the number of immigrant or refugee students in a class decreases academic optimism. Teachers face difficulties in communicating and reaching these students. Teachers' concerns about how to adapt to these students also increase." P4

The Number of Inclusive Students. The participants believe that an increase in the number of inclusive students in a class reduces the teacher's academic optimism and confidence in the students. The teacher may feel inadequate in meeting the needs of these students and may give up on them.

"The high number of inclusive students in a class also reduces teachers' academic optimism. For example, if we must teach 3-4 inclusive students in some classes, teachers immediately express their concerns and say that it is difficult to deal with these students. These students have special educational needs, and teachers may feel that they are not equipped to handle them. Teachers make various attempts to support these students, but if these attempts fail, the teacher's confidence may decrease." P1

Health Problems of Students. The health problems of students can also affect the teacher's trust in the student. Teachers may have lower expectations for such students and may be less optimistic about their academic success.

"When I have information about students who have family or health problems, I am more tolerant towards this student. ... I have lower expectations for these students and less academic optimism about their potential to succeed." T7

Grouping Practices According to Academic Achievement. Grouping by academic achievement, which is still practiced in some schools in Turkey despite the ban by the Ministry of National Education, affects teachers' trust in students. Teachers have less trust in students who are placed in low-achieving classes. This lack of trust reaches such serious levels that teachers may not even want to teach in these classes.

"Grouping Practices According to Academic Achievement causes us to lose both students and teachers. Students may give up and not want to work, accepting their perceived failure. Teachers may not make any effort, thinking there is no expectation of success from this class anyway." P5

"Teachers prefer to teach classes with higher achieving students, and avoid classes with lower achieving students." P2

Socio-Economic Background of the Parent

According to the participants, the socio-economic status of parents is an important factor that influences teachers' trust in parents. As the socio-economic status of parents increases, teachers' trust in them also increases. Conversely, teachers may have lower levels of trust in parents from lower socio-economic backgrounds.

"Parents with a higher level of education have higher expectations for their children's education and success, and they expect the school to support them in achieving these goals. On the other hand, parents with lower levels of education may not place the same emphasis on education and this can affect the teacher's level of effort and investment in the student. If the parent has a high level of education, we tend to think that this student can succeed, and we may trust the parent and student more and work a little harder to support them. If the education level of the parent is low, and there is no expectation for the student to succeed, the teacher may not invest as much effort either." T3

"There is a class in our school from a low socio-economic neighborhood. No teacher wants to teach this class, and the morale and motivation of the teacher who teaches in that class decreases." T7

Parental Intervention in Teacher's Work

Parents who interfere with teachers' work, try involving themselves in everything and complain to higher authorities when they are dissatisfied, undermine teachers' trust in them regardless of their socio-economic background.

"Today's challenge is the pressure parents put on teachers or the pressure from the institutions they report to. Reducing these pressures is a key factor in boosting teachers' success and academic optimism. Even if our teacher just raises their voice a little, I can feel their anxiety. I wonder if. . .they fear being reported." P6

Confidence of Parents and Students in School and Teacher

Parents and students notice the work of teachers, which can increase their trust in both the teacher and school. *"For example, I asked the children what the secret to their success was. They said that since our teachers are well-trained academically, it reflects positively on us and allows us to receive a good education, making our school successful overall. This means that they find their teachers successful in general, which increases both the teachers' and students' motivation."* T4

"To increase parents' trust in education, first, a dedicated academic approach is necessary. The trust of parents in the school is formed through the academic success of their children." T1

Discussion, Conclusions & Suggestions

In this study, it was examined which factors affect the academic optimism of secondary school teachers. These factors were identified as self-efficacy, academic emphasis, and trust in students and parents. The factors related to self-efficacy were identified as the teacher's personal characteristics, school organization and structure, school equipment, class and school size, teaching style, and performance evaluation system. Personal characteristics of the teacher were further defined as seniority, gender, classroom management experience, success experience, private life, and professional development.

The personal characteristics of teachers that affect their academic optimism are related to their self-efficacy perceptions. For various reasons, the self-efficacy perceptions of senior teachers who have experienced failure tend to decrease, while those of teachers who have experienced success tend to increase. Consequently, experience with success moderates the relationship between teachers' seniority and their self-efficacy perceptions. Almost all the participants in the study emphasized the importance of academic optimism with respect to their gender, and this emphasis appears to be related to their achievement experiences. The analyses indicate that teachers' perceptions of their self-efficacy are influenced more by their experience of success or failure in classroom management than by their gender. This finding is consistent with previous studies, such as [Ergen \(2016\)](#).

The school should be clean and orderly, the workshop, laboratory, and gym, etc. should be present in the school. It has been determined that the fact that there are departments, that the course materials and equipment are complete, that there are as many students as they should be in the classrooms, that the number of students in the school is not too few or more (between 300 and 850), that there is normal education in the school increases the perception of self-efficacy of the teachers. These findings also support the results of previous studies ([Çoban, 2010](#), [Tschannen-Moran](#)

& Woolfolk Hoy, 2001). The reason for the aforementioned school characteristics increasing the teacher's self-efficacy perception is the successful experience of the teacher. The listed school characteristics are indispensable for a teacher to be successful at school. When these features are provided, the prerequisite conditions are met for the teacher to be successful. Otherwise, it is difficult for the teacher to experience success and have a high self-efficacy perception based on this experience.

Two factors related to teacher self-efficacy are the teacher performance evaluation system and professional development opportunities. The analysis results indicate that a performance evaluation system can provide teachers with valuable feedback, promote professional growth, and boost motivation by offering a sense of accomplishment. Mireles-Rios and Becchio (2018) suggest that a successful performance, particularly during a formal observation, can enhance a teacher's perception of self-efficacy, and the feedback provided after the observation can offer verbal encouragement. On the other hand, evaluating a performance as a failure may negatively impact an individual's perception of self-efficacy for the task. However, Mireles-Rios and Becchio (2018) found that acknowledging teachers' strengths in addition to their weaknesses had a positive impact on teachers' self-efficacy perceptions. Their study also revealed that combining feedback in areas of weakness with positive expectations can improve teachers' perceptions of self-efficacy. These findings align with Ebmeier's (2003) assertion that teacher supervision can positively influence self-efficacy when administrators provide coaching, appreciation, and opportunities for dialog with teachers. Thus, contrary to Woolfolk Hoy and Spero's (2005) determination that teacher self-efficacy is primarily formed during the initial years of teaching and remains relatively stable after that, supervision and feedback can have a positive effect on a teacher's perception of self-efficacy and change over time. For feedback to be beneficial for developing teacher self-efficacy, administrators should prioritize the supervision process and provide clear feedback (Mireles-Rios & Becchio, 2018). A teacher who undergoes professional development with feedback is more likely to experience success and have an increased perception of self-efficacy. As a result, the professional development of teachers should be emphasized, particularly at the beginning of their careers. However, this does not mean that experienced teachers do not require professional development. Continuous support for a teacher's professional development in their area of expertise is crucial.

Factors that affect teachers' academic optimism in secondary schools include management practices, school culture, the transition system from basic education to secondary education, parents' expectations of the school, and trust in the school administrator. In terms of management practices, school principals need to support and value the work of teachers, treat them with respect and adopt a participatory management approach. This is consistent with the findings of Woolfolk Hoy et al. (2008), which suggest that variables related to the principal can significantly impact teachers' academic optimism. Therefore, it is crucial for school administrators to implement effective policies and procedures that align with teachers' optimistic attitudes toward their students' academic success.

The results of this study suggest that fostering an optimistic school culture that emphasizes academic achievement can boost teachers' academic optimism and increase academic emphasis. This finding aligns with the ideas of Hoy and Miskel (2012), who argue that shaping the school culture to prioritize academic standards can promote academic success. To achieve this, school principals should prioritize academic performance by setting high

standards, using appropriate assessments, and establishing clear and high expectations for all students. Additionally, the study findings indicate that in order for teachers to trust their principals, principals must be fair, act as a mediator between parents and teachers, support teachers, possess expertise in education and protect teachers' interests. These expectations are in line with prior research that highlights the importance of principals' management practices and the school culture they create in enhancing teachers' academic optimism (Tschannen-Moran, 2009; Tschannen-Moran & Gareis, 2015; Woolfolk Hoy et al., 2008). Therefore, it can be concluded that self-confidence is a prerequisite for school principals' management practices and the creation of a positive school culture that can enhance teachers' academic optimism.

In Turkey, a system of centralized exams has been in place for many years, creating an intense competition among students during the transition from primary to secondary education. The courses tested in the exam (Turkish, mathematics, science, history of revolution, foreign language, and religious culture) are given more importance by students, parents, and school administrators, and this emphasis on success is reflected in the academic optimism of teachers for these courses. However, for courses not tested in the exam, there is no academic pressure, resulting in reduced academic optimism for those teachers. For instance, music teachers may struggle to engage students who are preparing for the exam (Umuzdaş & Umuzdaş, 2015). Moreover, the expectations of parents for academic success and high exam performance from their children also affect the academic emphasis of teachers. As parental expectations for school performance increase, so does the academic emphasis of the teacher, and vice versa. These findings suggest that school principals are not the sole determinants of academic emphasis in a school, but rather the performance expectations of students and parents for centralized exams also have a significant effect on the academic emphasis and performance of the school and its teachers.

The research findings indicate that teachers' academic optimism is related to the demographic characteristics of students, the socio-economic status of parents, parental involvement in teachers' work, and trust in the school and teacher by parents and students. Teachers' trust in students decreases when teaching immigrant or refugee students. The number of inclusion students, those with health problems, and grouping practices according to academic achievement also reduced teacher trust. The socio-economic status of parents is a determinant of teacher trust in parents. Teachers are less likely to want to teach in classrooms with low socio-economic status parents. Parental intervention in teacher practices and complaints when their wishes are not met also reduce teacher trust. Teacher work recognized by parents and students increases teacher confidence. Grouping practices according to academic achievement where unsuccessful students are grouped together also lead to more failure. Teachers' distrust of socio-economically disadvantaged families is consistent with previous research results (Kurz, 2006; Woolfolk Hoy & Kurz, 2008). Ultimately, teacher trust in students and parents is based on experience with success.

Since trust is mutual, when teachers trust students and parents, and students and parents trust their schools, this mutual trust improves outcomes and prevents failure to a large extent (Kurz, 2006; Tschannen-Moran & Hoy, 1998). Therefore, the finding obtained in this study that parents' and students' trust in the school and teachers affects teachers' trust in students and parents is also in line with expectations. Teachers cannot be expected to trust students

and parents who do not trust themselves, do not cooperate, and complain. Additionally, it is clear that parents and students trust the school and teacher or not is ultimately related to the teacher's successful experience.

Based on all of these evaluations, it can be concluded that the main factor that determines a teacher's academic optimism is their professional success or failure experience. Therefore, this study supports the conceptual framework that suggests that teacher academic optimism consists of the teacher's sense of self-efficacy, academic emphasis, and trust in their students and parents (Hoy et al., 2006; Beard et al., 2010; Woolfolk Hoy et al., 2008).

This research differs from previous studies in a sense that it reveals the connection between the private life of a teacher and their sense of self-efficacy, and ultimately, their academic optimism. According to the findings, a teacher's family structure and socioeconomic status can influence their perception of self-efficacy. Teachers who do not face financial difficulties and have a happy family life in a peaceful city are more likely to have a higher perception of self-efficacy. This finding highlights the interdependence between work and family life, where events in one domain can impact the other. A teacher who experiences unrest in their family or financial difficulties may find it challenging to focus on their students and school, allocate time and make the effort to be successful. Consequently, a teacher's family structure and socio-economic status have a high likelihood of influencing their perception of self-efficacy.

Based on the findings, several recommendations can be made to improve teachers' academic optimism. The primary recommendation is to take measures to increase teachers' self-efficacy perceptions, which can be achieved by enabling teachers to experience success. According to the research, the following steps can be taken to facilitate this experience: (1) ensuring that teachers are fairly compensated; (2) providing opportunities for professional development and offering constructive feedback; (3) transforming the physical environment and materials in schools and ensuring that class sizes are conducive to success with the help of teachers; (4) selecting and training school administrators who implement fair, supportive, and participatory management practices; and (5) supporting vulnerable students and their parents to create an environment in which they can succeed at school.

Ethic

We confirm that the research was conducted in compliance with the ethical standards set by the institutional and/or national research committee, as well as the 1964 Helsinki declaration and its subsequent amendments or equivalent ethical standards. Informed consent was obtained from all individual participants who were included in the study.

Author Contributions

This study was produced from the master thesis prepared by the first author under the supervision of the second author.

Conflicts of Interest

There is no conflicts of interest in the research

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The Relationship between Smartphone Addiction and Identity Development among Adolescents

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Abstract

Smartphone addiction has negative consequences on adolescents. The main developmental task of adolescence is the formation of ego-identity. Little is awareness of the role of smartphone addiction in ego-identity during adolescence. The study intends to examine the relationship between smartphone addiction and dimensions of identity development. For this purpose, the effects of smartphone addiction on identity dimensions were analysed using path analysis. The sample consisted of 403 high school students aged between 13 and 18 years. The Dimensions of Identity Development Scale and Smartphone Addiction Scale Short Form were used as data gathering instruments. As a result of the analysis, it was determined that smartphone addiction negatively predicted identification commitment, commitment making and exploration breadth from the dimensions of identity development. In addition, it was found that smartphone addiction positively predicted ruminative identity exploration. With the model presented in this study, the connection between smartphone addiction and identity development was determined and it was concluded that adolescents' smartphone addiction plays an important role in identity development. The results obtained were discussed within the framework of the literature. Suggestions were made to researchers and practitioners.

Key Words

Identity development • Adolescence • Smartphone addiction

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With the developments in technology in recent years, smartphones have become an integral part of individuals. Smartphones offer the opportunity to access information and maintain communication at any time. In addition, they can play games through applications downloaded to smartphones, be online on social media, and instantly follow (Körmeni et al., 2016). While 3.8 billion world population actively used smartphones in 2021, this number is expected to increase to 4.5 billion in 2024 (Newzoo, 2021). Although smartphone offer many opportunities, the increase in the duration of use and out of control use has brought many problem areas. One of these problems is smartphone addiction (Wu et al., 2013). Smartphone addiction (SPA) is defined as a behavioural addiction that causes many negative consequences in the individual as because of uncontrolled, excessive and, addictive use of the smartphone (Billieux, 2012). The biopsychosocial model has defined the symptoms of SPA. These symptoms include salience, withdrawal, tolerance, mood modification, conflict, and relapse (Griffiths, 2005).

When the definition and symptoms of SPA are considered, it may be related to many problems. Adolescents, especially in the transition period, are prone to SPA (Yen et al., 2009). In this period, SPA is associated with many problem areas. In adolescence, SPA was positively associated with alexithymia (Ding et al., 2022), anxiety (Güner & Demir, 2022), loneliness (Yıldız-Durak, 2018), poor sleep quality (Yang et al., 2020), depression (Demirbaş- Çelik et al., 2022) and cyberbullying (Gül et al., 2020). SPA, which is associated with many problem areas during adolescence, brings to mind how it will be reflected in ego-identity development, which is the basic developmental task of the individual in this period. According to Erikson's (1968) psychosocial development theory, the basic development of adolescence is to form ego-identity. This suggests how the SPA the adolescent in this period will be related to the identity

The five-dimensional identity model was developed by Luyckx et al. (2008a) within the scope of Erikson's (1968) identity theory and Marcia's (1966) identity statuses model. These dimensions are Identification Commitment (IC), Exploration Breadth (EB), Commitment Making (CM), Ruminative Exploration (RE), and Exploration Depth (ED) (Luyckx et al., 2010). CM is the individual's attachment to the constructs that will form the identity (Luyckx et al., 2008b). IC is the degree to which the individual feels that the identity structures are compatible with them (Luyckx et al., 2010). CM and IC are closely linked to the achievement and foreclosure identity status in Marcia's model of identity statuses (Luyckx et al., 2008a). EB is extensive research on the options that will form ego-identity. In this dimension, the individual explores many ideals, values, and ideological issues (Luyckx et al., 2008b). ED is the re-evaluation of ego identity structures (Luyckx et al., 2010). EB and ED are closely linked to achievement and moratorium identity status (Luyckx et al., 2008a). RE refers to being stuck in the process of the identity formation. RE refers to being stuck in the process of identity (Luyckx et al., 2010). RE is closely linked to moratorium and diffusion identity statuses (Luyckx et al., 2008a).

Many risk factors negatively affect ego-identity development (Luyckx et al., 2008a). One of these risk factors may SPA. According to the biopsychosocial model, SPA is among the risk factors for adolescents. The biopsychosocial model, behavioural addiction includes psychological, sociological, and biological components. This model addresses the definition, types and symptoms of behavioural addictions. Behavioural addiction is an addiction that is unrelated to a substance. These include addiction to smartphones, gaming, eating, exercise, and sex. The

symptoms of SPA include salience, withdrawal, tolerance, mood change, conflict, and relapse (Griffiths, 2005). In this context, Côté and Levine (2002) stated that addiction is an obstacle to harmonious ego identity. Marcia (1966) emphasized that substance abuse decreases the tendency towards successful identity status and increases the tendency towards moratorium and diffusion identity statuses. In a longitudinal study by De Moor et al. (2022), IC and ED were negatively related to substance abuse. In addition to substance addiction, recent years, there have been studies examining the effects of internet, social media and smartphone addiction on ego-identity. Internet addiction was negatively related to identity exploration (Israelashvili et al., 2012) and ego-identity (Kim et al., 2010). Internet addiction was found to be inversely related to informative and normative identity styles and positively related to diffuse avoidance style (Monacis et al., 2017). In another study, internet addiction and RE were positively correlated (Morsünbül, 2014). In addition, social media addiction and identity confusion were positively related (Sharif & Khanekharab, 2017). Social media addiction was found to be negatively related to achievement and foreclosure identity statuses and positively related to moratorium and diffusion identity statuses (Mazalin & Moore, 2004). Few studies have addressed the relationship between SPA and ego-identity. In a study by Kaya (2021), a negative relationship was found between SPA and identity functions. In addition, SPA was found to be negatively related to self-identity dimensions (Kim, 2017). Another study found a positive relationship between SPA and identity diffusion (Fallah et al., 2019). As a result, considering and literature the relationship between SPA and identity development dimensions was analysed.

The present study

SPA has become a worldwide phenomenon and its negative influences have been the subject of many studies (Liu et al., 2017). In the literature, although there are studies on the social (Yıldız-Durak, 2018; Tateno et al., 2019), emotional (Ding et al., 2022; Kim et al., 2019), and academic (Samaha & Hawi, 2016; Shen et al., 2021) effects of SPA on adolescents, there are few studies on the link between this addiction and ego-identity. Previous studies have examined the effects of SPA on identity functions (Kaya, 2021) and self-identity (Kim, 2017). However, revealing the relationship between ego-identity, which is the basic developmental task of adolescence, and SPA, which has become a worldwide phenomenon, may contribute to the literature. In addition, the results of this study may contribute to prevention and intervention programmes for SPA. In line with this importance, the objective of this study was to explore the link between SPA and the dimensions of identity development. The research hypothesis (a) SPA positively predicted CM, (b) SPA positively predicted IC, (c) SPA positively predicted EB, (d) SPA positively predicted ED, and (e) SPA negatively predicted RE.

Methods

Participants

The convenience sampling method was used to determine the samples. This method prevents the loss of money and labour and takes into account the accessibility of the participants (Büyüköztürk et al., 2010). The participants are studying in three high schools in Mardin. The participants consisted of 403 students, 241 (59.8%) female and 162 (40.2%) male. Their ages were between 13 and 18 (Mean= 15.74, SD= 1.46). Of these adolescents, 81 (20.3 %) were in 9th grade, 120 (29.8 %) in 10th grade, 125 (31.0 %) in 11th grade, and 76 (18.9 %) in 12th grade.

Procedure

Before starting the research, ethics committee permission was obtained from Çukurova University (Document no: E-95704281-604.02.02-579891). In addition, necessary permissions were obtained from the parents of the students and educational institutions. The information consent form was obtained. Participants are those who voluntarily want to get involved. It took approximately 20 minutes to answer the scales. The scales were administered by the researchers using paper and pencil in the classroom. All processes of the research were conducted according to the Declaration of Helsinki.

Measures

Identity Development Dimensions Scale

The scale was proposed by [Luyckx et al. \(2008a\)](#) and translated into Turkish by [Morsünbül and Çok \(2014\)](#). It consists of twenty-five items and five dimensions. The instrument is 5-point Likert type. The scores that can be obtained for each dimension are between 5 and 25. The model fit value of the scale was found to be acceptable ($\chi^2/df = 2.90$, AGFI = 0.94, GFI = 0.95, CFI = 0.92, SRMR = 0.07 and RMSA = 0.06). Factor loadings were found between 0.49 and 0.80. Cronbach alpha values of the dimensions are between 0.88 and 0.78. Internal consistency values for this study are presented in Table 1.

Smartphone Addiction Scale Short Form

The scale was proposed by [Kwon et al. \(2013\)](#) and translated into Turkish by [Noyan et al. \(2015\)](#). It is a 6-point Likert-type scale 10 items. The scale consists of one dimension. The scores that can be obtained from the scale are between 10 and 60. The factor loads of the scale were found between 0.49 and 0.83. Cronbach alpha values were calculated as 0.87.

Data analysis

In this study, the cross-sectional method was used to reveal the relationship between variables. Path analysis was used to test the prediction of SPA on the dimensions of identity development. Herman's single factor test was analysed to determine the common method bias (CMB) problem. To avoid CMB problem, a single factor structure should explain less than 40% of the variance ([Zhou & Long, 2004](#)). In this study, 23.95% of the variance was explained as a single factor structure. For normal distribution, [Tabachnick and Fidell's \(2001\)](#) criterion that both skewness and kurtosis values should be in the range between +1.5 and -1.5 was taken into consideration. In addition, AVE >0.05, CR >0.07 and CR > AVE criteria should be met for convergent, discriminant validity ([Hair et al., 2014](#); [Fornell & Larcker, 1981](#)). SPSS 25, SmartPLS 3 and AMOS 26 package programmes were used for the analyses in this study.

Results

Preliminary analyses

Firstly, mean, kurtosis, skewness, reliability values, convergent and discriminant validity values were analysed.

Table 1

Convergent, Discriminant Validity and Descriptive Statistics of the Variables

Variable	Mean	SD	Skewness	Kurtosis	Cronbach	McDonald	rho_A	CR	AVE
					α	ω			
SPA	26.60	11.74	0.48	-0.38	0.88	0.90	0.89	0.90	0.54
CM	17.21	4.63	-0.38	0.10	0.88	0.88	0.94	0.91	0.66
EB	18.42	4.22	-0.52	0.19	0.83	0.83	0.84	0.87	0.57
RE	15.75	5.08	-0.17	-0.65	0.82	0.83	0.84	0.87	0.58
IC	17.37	4.80	-0.43	-0.19	0.84	0.85	0.89	0.88	0.62
ED	17.65	4.11	-0.53	0.31	0.71	0.72	0.53	0.74	0.39

As show in Table 1, the mean value of the SPA variable was 26.60, skewness value was 0.48, kurtosis value was -0.38, Cronbach (α) value was 0.88, McDonald omega (ω) value was 0.90, rho_A value was 0.83, CR value was 0.90 and AVE value was 0.54. CM dimension mean value was 17.21, skewness value was -0.38, kurtosis value was 0.10, Cronbach (α) value was 0.88, McDonald omega (ω) value was 0.88, rho_A value was 0.94, CR value was 0.91 and AVE value was 0.66. EB dimension mean value was 18.42, skewness value was -0.52, kurtosis value was 0.19, Cronbach (α) value was 0.83, McDonald omega (ω) value was 0.83, rho_A value was 0.84, CR value was 0.87 and AVE value was 0.57. RE dimension mean value was 15.75, skewness value was -0.17, kurtosis value was -0.65, Cronbach (α) value was 0.82, McDonald omega (ω) value was 0.83, rho_A value was 0.84, CR value was 0.87 and AVE value was 0.58. IC dimension mean value was 17.37, skewness value was -0.43, kurtosis value was -0.19, Cronbach (α) value was 0.84, McDonald omega (ω) value was 0.85, rho_A value was 0.89, CR value was 0.88 and AVE value was 0.62. ED dimension mean value was 17.65, skewness value was -0.53, kurtosis value was 0.31, Cronbach (α) value was 0.71, McDonald omega (ω) value was 0.72, rho_A value was 0.53, CR value was 0.74 and AVE value was 0.39

As show in Table 1, the dimensions included in the study fulfilled the criteria of normal distribution, convergent, discriminant validity and reliability. However, the ED dimension was excluded from the analysis because it did not meet the specified criteria, as rho_A was 0.53 and AVE was 0.39. In the analysis made in this context, presented in Table 1.

Table 2

Correlation Values of the Variables

Variable	1	2	3	4	5
1. SPA	1.00				
2. CM	-0.22**	1.00			
3. EB	-0.13**	0.53**	1.00		
4. RE	0.21**	-0.32**	-0.14**	1.00	
5. IC	-0.13**	0.73**	0.46**	-0.28**	1.00

** $p < 0.01$

Table 2, show a negative relationship between SPA and CM ($r= -0.22, p<0.01$), EB ($r= -0.13, p<0.01$), and IC ($r= -0.13, p<0.01$). A positive relationship SPA and RE ($r= 0.21, p<0.01$). In addition, CM was positively associated with IC ($r= 0.73, p<0.01$), and negatively associated with RE ($r= -0.32, p<0.01$). Also, RE was negatively associated with IC ($r= -0.28, p<0.01$).

Path Analysis

Table 3

Findings of the Path Analysis

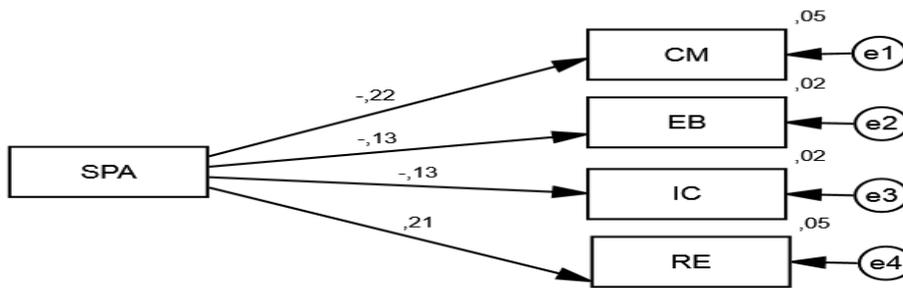
Pathway	B	S.E.	Coefficient	<i>p</i>
SPA→ CM	-0.18	0.03	-0.22**	0.00
SPA→ EB	-0.09	0.04	-0.13**	0.00
SPA→ RE	0.18	0.04	0.21**	0.00
SPA→ IC	-0.11	0.04	-0.13**	0.00

** $p<0.01$

As seen in Table 3, SPA predicted CM ($\beta= -0.22, p<0.01$), EB ($\beta= -0.13, p<0.01$), IC ($\beta= -0.13, p<0.01$) negatively and RE ($\beta= 0.21, p<0.01$) positively. All coefficient values were significant. Figure 1 shows the path analysis.

Figure 1

Standardized Effects of Smartphone Addiction on Identity Developments (Path Analysis)



In the path analysis shown in Figure 1, it was found that smartphone predicted the dimensions of identity development significantly. SPA predicted CM ($\beta= -0.22, p<0.01$), EB ($\beta= -0.13, p<0.01$), IC ($\beta= -0.13, p<0.01$) negatively and RE ($\beta= 0.21, p<0.01$) positively. All coefficient values were significant.

Discussion

The results of this study showed, that SPA predicted the identity development dimensions CM, EB, IC negatively, and RE positively. In this context, [Kuss and Griffiths \(2014\)](#) emphasised in their book Internet Addiction in Psychotherapy that smartphone addiction has a negative impact on ego-identity formation and ego-identity development. Previous studies have found that internet addiction negatively predicts identity exploration

(Israelashvili et al., 2012) and ego-identity (Kim et al., 2010). The link between internet addiction and RE, one of the dimensions of identity development, was also examined. In the study by Morsünbül (2014), in line with the results of this study, it was found that internet addiction positively predicted RE. The main developmental task of adolescence is to form ego-identity (Erikson, 1968). During this period, SPA negatively affects the process of searching for a compatible identity. Therefore, this may prevent the adolescents from forming a coherent ego-identity.

SPA is a form of internet addiction (Billieux, 2012). Kaya (2021) proposed a model to explain the relationship between SPA and ego-identity. In this model, it was reported that SPA negatively predicted identity functions. Recent studies have found that SPA negatively predicts self-identity (Kim, 2017) and positively predicts identity diffusion (Fallah et al., 2019). The proposed model and previous studies have shown that SPA is negatively related to identity development. In addition, according to Marcia's (1966) model of identity statuses, addiction negatively affects ego-identity. In the five-dimensional identity development model, CM, EB, and IC are explained as dimensions to which positive characteristics are attributed. RE, on the other hand, was defined as a dimension attributing negative characteristics, i.e., obsession and stuckness in identity development (Luyckx et al., 2008a; Luyckx et al., 2010). As a result, it can be stated that CM, EB, and IC predicted negatively and RE predicted positively as indicators of the negative reflection of this addiction on ego identity. Adolescents who are addicted to smartphones cannot do enough expansion research on the options that will form the ego identity and cannot adequately evaluate the options that will form the identity structure. Adolescents may also become stuck in the process of identity formation.

Limitations and Recommendations for Further Research

The study group consisted of adolescents. Therefore, generalisation to different developmental periods may be problem. Based on this limitation, that researchers conduct similar studies in emerging adulthood. Recently, it has been reported that the process of identity formation continues into emerging adulthood (Luyckx et al., 2010). The study was designed cross-sectionally. Therefore, it is a limitation that causality and longitudinally cannot be mentioned. An experimental and longitudinal study examining the effect of smartphone addiction on identity development can be conducted. This study examined the direct effect of SPA on identity dimensions. This also constitutes a limitation. Variables that may play a mediating and moderating role in this relationship can be tested. In the relationship between these two variables, alexithymia, social exclusion, executive function, and emotion regulation difficulty may have a mediating role. In this study, self-report scales were used. This may cause participants to respond with some biases and prejudices. To reduce this limitation, qualitative research designs that address adolescents' views on SPA identity development can be created. This study is important in terms of revealing the relationship between SPA and identity development dimensions. Considering this result, preventive and intervention programmes can be created for SPA to reduce its negative effects on adolescents' identity development. A programme that contributes to the ego-identity formation process for adolescents can be developed. Applications can be created to explore identity options. An intervention programme can be created to reduce adolescents' SPA and contribute to the formation of identity.

Ethic

We declare that the research was conducted in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Author Contributions

This article was written with the joint contributions of two authors.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Teachers' Views on the Achievement Level of the Learning Outcomes in the New 2017-2018 Grade Five Social Studies Curriculum

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Abstract

Technological and social changes necessitate changes in education programs as well. Thus, with the changes and improvements made in education programs over time, new curricula were introduced to replace the existing ones. The most recent reform made in the education programs in Türkiye was in the year 2017, during which the social studies curriculum was also renewed. To what extent learning outcomes are achieved in a curriculum can be best assessed by the teachers who are the implementers of the curriculum. Curriculum studies in the literature are mostly focused on the teacher, students, expert opinions and comparative studies. The aim of the present study was to determine the extent to which the learning outcomes in the new 2017 grade 5 social studies curriculum were achieved based on teachers' views. Descriptive research methods, namely the survey, and mixed qualitative-quantitative research models were utilized. The data collection tool used in the present research study was developed by the researcher: "Questionnaire on Teachers' Views Regarding the Achievement Levels of the New 2017-2018 Grade 5 Social Studies Course Learning Outcomes". This questionnaire consists of three parts and includes open-ended questions. The data of the study were obtained from 60 grade 5 social studies teachers out of the 99 social studies teachers working in 49 official secondary schools in the city center of Tokat. Frequency (f), percentage (%), standard deviation (ss), t-test, Oneway ANOVA, and the Shcheffe test were used in the analysis of the data obtained.

Key Words

Curriculum • Social studies • Teacher views

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Introduction

Education is a process by which individuals are equipped with knowledge, skills, values and attitudes. During this process, individuals engage in learning which leads to behavioral changes. People are in continuous interaction with each other and their environment. Since each individual's communication and interaction with people and their environment is different, their behavioral learning outcomes also vary. Thus, education is a process of creating change in behavior by means of people's own life experiences (Erden, 2004). One of the fundamental elements of an education system is the curriculum. The curriculum sits at the center of all kinds of reform work in education. Changes and reforms in education programs over time are inevitable. Hence, this necessitates the development and implementation of new programs. The newly designed programs need to be the most effective in their time period. Based on the technological and social changes and developments over time, the designed programs start to become insufficient in meeting needs. Hence, based on the time period during which they are implemented and the changes that are taking place in the world, programs need to be evaluated. Thus, with the changes made in the 2004-2005 education programs, there was a transition to constructivist and student-centered education models. Accordingly, to meet the needs of the changing world, the 'Social Studies Education Program' was renewed at various points in time (Tay, 2017).

The Social Studies subject was first incorporated into the primary education curriculum in 1968. Changes were made in the secondary school education curriculum in the 1970-1971 academic year; the sciences and social studies subjects started to be piloted in schools defined by the Ministry of Education. In 1985, the social studies subject was removed; it was replaced by the subjects of national history, national geography and citizenship. In 1990, a new primary school curriculum was developed and various changes to the 1968 curriculum were made. The social studies subject was reincorporated into the 1997 secondary school curriculum. Moreover, in 1997, compulsory education was increased to 8 years. This increase created inevitable changes in the education program. This also impacted the social studies subject. The social studies subject was subjected to various changes and amendments in the year 2005 as well. Education programs were redesigned based on the constructivist approach to learning (Daşcıoğlu et al., 2014). The most recent changes in education programs were made in the year 2017, and this led to the renewal of the social studies curriculum. The 2017 education program, which was developed in combination by the General Directorates of Elementary Education, the Secondary Education, and Religious Education, was initially opened to the public for feedback and subsequently published on the official website of the Ministry of Education; after receiving opinions and recommendations, it was approved on 2nd May 2017 by the Board of Education and Discipline. The new education program was implemented in grades 1, 5 and 9 during the 2017-2018 academic year; it was implemented in the other grade levels during the 2018-2019 academic year.

In the new 2017 grade 5 social studies curriculum (hereby referred to as the 2015 grade 5 SSC), the most prominent change was in the reduction of the number of learning outcomes and the change in the topics to be covered. While the number of learning outcomes in the former curriculum was 46, this showed a significant drop to 34 learning outcomes in the new 2017 curriculum. Moreover, there was a total of eight learning domains in the grade 5 curriculum; this dropped to seven learning domains in the new 2017 curriculum, six of which were observed to be the same with those in the previous curriculum and the seventh a new learning domain called 'Effective Citizenship'.

In the previous curriculum, the concept 'unit' was used, whereas in the new 2017 grade 5 SSC, this was replaced with the concept 'learning domain'.

Research Questions

To serve the purpose of the present study, the responses to the following research questions were sought:

What are the teachers' views on the achievement levels of the social studies learning outcomes and the influential factors?

a) Do achievement levels show variance by the sufficiency and method of the training provided to introduce the new curriculum?

b) What are the teachers' views regarding the effect of discipline of graduation, class size, gender and the teacher's level of experience in teaching?

c) What are the responses to the open-ended questions?

The Aim of the Study

In the present study, the aim was to determine the extent to which the learning outcomes of the new social studies course curriculum were attained based on teachers' views.

Significance of the Study

The teacher is not one who transfers knowledge to students during the teaching and learning process, but one who guides students in their effort to achieve the learning outcomes. The new social studies course was implemented in grades 4 and 5 in the 2017-2018 academic year. In the new curriculum, certain changes were made in both the content and the learning outcomes. While many new learning domains were added to the grade 5 social studies curriculum, some of the learning domains were removed. Furthermore, there was a reduction in the number of learning outcomes when compared to the former curriculum. Learning outcomes are the most important elements in the curriculum. Hence, when determining the number of learning outcomes to be placed in curricula to be developed in the future, it is important to identify to what extent the learning outcomes in the 2017 curriculum were achieved (Tay, 2017).

In the present era, the rapid changes in digital technologies have led to changes in the education system and the targetted human model (Çalışkan & Yiğittir, 2011). Education programs have also been impacted by these changes. Hence, the education program was renewed in 2017, and, thus the social studies curriculum was also renewed. In consistency with these changes and reforms, the learning outcomes that changed and reduced in number when compared to those in the previous curriculum were focused on in the present study; teachers were consulted for their views in related to the extent to which the learning outcomes were achieved.

Method

Research Design

Descriptive research methods, namely the survey, and the mixed qualitative-quantitative research models were utilized in the present study, which aimed to identify the extent to which the learning outcomes of the social studies course of the 2017 grade 5 SSC were reached based on teachers' views.

Population and Sample

In order to collect information, telephone calls were made to 49 secondary schools that were found to be located in the Tokat province in order. The population of the present study was comprised of 99 social studies teachers teaching the social studies course during the second term of the 2017-2018 academic year in secondary schools in the Tokat province bound by the National Ministry of Education. The sample of the study was comprised of 60 social studies teachers teaching the grade 5 social studies course in central secondary schools in the Tokat province bound by the National Ministry of Education. A questionnaire, which also included open-ended questions, was administered to these teachers. 57 of these were reached, while 3 could not be reached for various reasons. Thus, 57 questionnaire forms were administered and these forms formed the basis of the present research study.

Table 1 below presents the frequency (f) and percentage (%) distributions of the characteristics of the teachers in the sample group in terms of gender, discipline of graduation, teaching experience, average class size, method of participation in the introduction of the new curriculum, the sufficiency condition of the training offered to introduce the new curriculum.

Table 1

Distributions of the Participant Teachers' Characteristics

Characteristics	Groups	Frequency(n)	Percentage (%)
Gender	Female	21	36.8
	Male	36	63.2
	Total	57	100.0
Discipline of graduation	Social Studies Teaching	35	61.4
	History Teaching	13	22.8
	Geography Teaching	9	15.8
	Total	57	100.0
Experience	10 or more years	25	43.9
	11 or fewer years	32	56.1
	Total	57	100.0
Class size	10-20	23	40.4
	21-30	23	40.4
	31-40	11	19.3
	Toplam	57	100.0
Method of participation in the introduction of the new curriculum	In-service Training	11	19.3
	Seminar	29	50.9
	Meeting	9	15.8
	No Participation	8	14.0
	Total	57	100.0
The sufficiency condition of the training received for the introduction of the new curriculum	Yes	10	17.5
	Partially	28	49.1
	No	19	33.3
	Total	57	100.0

Research Instruments

A questionnaire refers to a list of questions prepared to reveal individuals' views, knowledge, and attitudes with the aim of identifying any particular condition (Gelen et al., 2007). Open-ended questions do not require individuals' responses to be standard, and they facilitate individuals in responding to the questions (Yıldırım & Şimşek, 2011). The data collection tool used in the present study, which aimed to identify the achievement levels of the new grade 5 social studies course learning outcomes implemented in the 2017-2018 academic year, was the "Questionnaire on Teachers' Views Regarding the Achievement Levels of the New 2017-2018 Grade 5 Social Studies Course Learning Outcomes"; this questionnaire was developed by the researcher and was administered to secondary school grade 5 social studies course teachers to collect the data.

The questionnaire consists of three sections. In the first section, there are seven questions on personal information. The second section contains the 34 learning outcomes of the 2017-2018 grade 5 social studies course. In the third section, there are six open-ended questions in relation to the achievement levels of the grade 5 social studies course learning outcomes defined in the new 2017-2018 curriculum. Of these six questions, three were selected to be used within the scope of the present study. The data obtained from the open-ended questions in the study were analysed via the qualitative research method of content analysis. Content analysis is the method of determining the presence and usage conditions of words, sentences, concepts, themes and categories and converting them to numeric values (Kızıltepe, 2015). The similarities and differences among the responses given to the open-ended questions were examined to form themes, and the statements within the same theme were categorized.

Reliability of the Survey

Cronbach's Alpha is used when the questionnaire is based on a five-point Likert scale (Büyüköztürk, 2008). Cronbach's Alpha, the most widely known method of measuring reliability, yields a reliability coefficient based on internal consistency. If the Cronbach's Alpha coefficient is above 0.70, that questionnaire is regarded to be reliable (Başol, 2015).

The reliability coefficients (Cronbach's Alpha) of the data in the present study regarding the achievement levels of the grade 5 social studies learning outcomes by learning domains are presented below.

Table 2

The Reliability Coefficients of the Grade 5 Social Studies Course Learning Outcomes by Learning Domain

Learning domains	Cronbach's Alpha Values
Individual and Society	0.820
Culture and Heritage	0.906
People, Places and Environments	0.889
Science, Technology and Society	0.903
Production, Distribution and Consumption	0.879
Effective Citizenship	0.836
Global Connections	0.863

Data Collection

As the data collection tool in the present study, a questionnaire was developed by the researcher and used to collect data, namely the “Questionnaire on Teachers’ Views Regarding the Achievement Levels of the New 2017-2018 Grade 5 Social Studies Course Learning Outcomes”. The required permission to administer the questionnaire was received from the Tokat Directory of National Education. School visits were made between 20 May and 30 June, and the questionnaire forms were filled by the teachers who were reached via e-mail. A literature review was performed in this subject area.

Data Analysis

The data obtained in the present research study were analyzed by using the SPSS (Statistical Package for Social Sciences) for Windows 22.0. To analyze the data, descriptive statistics analyses were utilized to obtain the count, frequency, mean and standard deviation. Moreover, t-tests were used in the comparison of continuous quantitative data between two independent groups and the oneway ANOVA test to compare the continuous quantitative data between more than two independent groups. To identify the variance after the ANOVA test, the Scheffe test was used to conduct a complementary post-hoc analysis.

In the questionnaire, the following Likert statements were used: Completely Agree, Strongly Agree, Somewhat Agree, Partially Agree, and Strongly Disagree. The learning outcomes that were categorized and named with the learning domain they belonged to were evaluated based on a score between 1 and 5. To calculate the distribution interval, the following formula was used: $\text{Distribution interval} = \text{Highest value} - \text{Lowest value} / \text{number of degree}$. This interval has an interval of 4 scores. This interval was divided into five equal sub intervals: 1.00-1.79 was defined as “very low”, 1.80-2.59 as “low”, 2.60-3.39 as “moderate”, 3.40-4.19 as “high”, 4.20-5.00 as “very high”, and the results were interpreted based on these cut-off values (Sümbüloğlu, 1993).

The descriptive research method of content analysis was employed to analyze the data obtained from the open-ended questions in the present study.

Results

Results Regarding Teachers’ Achievement Levels of the new Grade 5 Social Studies Course Learning Outcomes Based on Teacher’s Views

The responses that the teachers in the sample group provided in relation to the achievement levels of the new social studies course learning outcomes are summarised in the table below in terms of frequency (f), percentage (%), standard deviation and means. In addition, six open-ended questions were asked to the teachers in the third section of the data collection tool: "Questionnaire on Teachers’ Views Regarding the Achievement Levels of the New 2017-2018 Grade 5 Social Studies Course Learning Outcomes". Analyses of the data obtained were conducted to seek responses to the research questions.

Table 3

The Distribution of the Responses of the Teachers on Achievement Levels of the New Grade 5 Social Studies Course Learning Outcomes

	Strongly Disagree		Partially Agree		Somewhat Agree		Strongly Agree		Completely Agree		M	SD
	f	%	f	%	f	%	f	%	f	%		
LEARNING DOMAIN: Individual and Society												
Develop awareness of the contribution of the social studies course to their own development as an active citizen of the Turkish Republic	1	1.8	3	5.3	9	15.8	20	35.1	24	42.1	4.105	0.976
Explain the multi-dimensionality of an event based on an experience in their immediate environment	0	0.0	6	10.5	8	14.0	24	42.1	19	33.3	3.982	0.954
Demonstrates behavior appropriate to the rights and responsibilities of the roles assumed in the groups they are a part of	0	0.0	2	3.5	12	21.1	23	40.4	20	35.1	4.070	0.842
Provides examples for benefitting from children's rights and for violations of these rights	0	0.0	3	5.3	12	21.1	17	29.8	25	43.9	4.123	0.927
LEARNING DOMAIN: Culture and Heritage												
Develop awareness of the contributions of ancient civilizations to history of humanity based on concrete remnants	1	1.8	6	10.5	19	33.3	19	33.3	12	21.1	3.614	0.996
Introduce the natural objects and historical places, objects and works in their environment	0	0.0	6	10.5	5	8.8	22	38.6	24	42.1	4.123	0.965
Identify similar and different features by comparing the various cultural features of Turkey and the cultural features of the area of residence	0	0.0	5	8.8	16	28.1	20	35.1	16	28.1	3.825	0.947
Analyse the role that cultural elements have in people's co-existence	0	0.0	4	7.0	11	19.3	27	47.4	15	26.3	3.930	0.863
Evaluate the historical development of the cultural elements in daily life	0	0.0	8	14.0	16	28.1	19	33.3	14	24.6	3.684	1.003
LEARNING DOMAIN: People, Places and Environments												
Explain the general topographic map features of the regions of settlement	0	0.0	3	5.3	12	21.1	22	38.6	20	35.1	4.035	0.886
Explain and exemplify with daily life examples the impact of the climate in residential areas on human activities	0	0.0	0	0.0	10	17.5	23	40.4	24	42.1	4.246	0.739
Associate the effects of natural and anthropic features in their area on population and settlement	0	0.0	4	7.0	11	19.3	21	36.8	21	36.8	4.035	0.925
Question the reasons underlying the disasters and environmental problems in their area of residence	0	0.0	2	3.5	11	19.3	22	38.6	22	38.6	4.123	0.847
Explain and exemplify the impacts of natural disasters on social life	0	0.0	0	0.0	10	17.5	22	38.6	25	43.9	4.263	0.745
LEARNING DOMAIN: Science, Technology and Society												
Question the accuracy and reliability of the information obtained from virtual media	1	1.8	3	5.3	16	28.1	20	35.1	17	29.8	3.860	0.972
Pay careful attention to using the virtual media in a secure way	1	1.8	4	7.0	11	19.3	26	45.5	15	26.3	3.877	0.946

RESEARCH ON EDUCATION AND PSYCHOLOGY (REP)

Discuss the impact of technology use on socialisation and social relationships	0	0.0	4	7.0	16	28.1	20	$\frac{35}{1}$	17	29.8	3.877	0.927
Identify common attributes of inventors and scientists	0	0.0	3	5.3	8	14.0	23	40	23	40.4	4.158	0.862
Demonstrate scientific ethical behavior in their work	2	3.5	6	10.	15	26.3	20	35	14	24.6	3.667	1.075
LEARNING DOMAIN: Production, Distribution and Consumption												
Identify the economic activities of their area of residence	0	0.0	2	3.5	10	17.5	22	38.	23	40.4	4.158	0.841
Analyze the impact of the economic activities in their area on social life	0	0.0	3	5.3	9	15.8	27	47.	18	31.6	4.053	0.833
Analyse the production, distribution and consumption of the basic products they use	0	0.0	3	5.3	13	22.8	18	$\frac{31}{6}$	23	40.4	4.070	0.923
Develop new ideas on production, distribution and consumption by means of collaboration	2	3.5	4	7.0	18	31.6	20	$\frac{35}{1}$	13	22.8	3.667	1.024
Use their rights as an informed consumer	0	0.0	8	14.0	5	8.8	21	36.	23	40.4	4.035	1.035
LEARNING DOMAIN: Effective Citizenship												
Know the emerging professions based on the economic activities in their area of residence	1	1.8	3	5.3	12	21.1	18	31.6	23	40.4	4.035	0.999
Develop an association between the social needs in their area and the associations providing service to meet these needs	0	0.0	4	7.0	9	15.8	26	45.6	18	31.6	4.018	0.876
Explain the fundamental duties of government units	2	3.5	1	1.8	15	26.3	17	29.8	22	38.6	3.982	1.026
Explain basic reights and the importance of using these rights	0	0.0	2	3.5	14	24.6	24	42.1	17	29.8	3.982	0.834
Value national sovereignty and independence symbols such as the flag and the national anthem	0	0.0	0	0.0	5	8.8	22	38.6	30	52.6	4.439	0.655
LEARNING DOMAIN: Global Connections												
Research the place and importance of the city of their residence in international economic relations	1	1.8	5	8.8	13	22.8	23	40.4	15	26.3	$\frac{3.80}{7}$	0.990
Discuss the impact of communication and transport technology in international economic relations	0	0.0	4	7.0	17	29.8	19	33.3	17	29.8	$\frac{3.86}{0}$	0.934
Explain the importance of tourism in international relations	0	0.0	3	5.3	10	17.5	23	40.4	21	36.8	4.08	0.872
Exemplify common heritage elements present in various countries	1	1.8	7	12.3	20	35.1	16	28.1	13	22.8	3.57	1.034
Research and recommend innovative ideas to meet the needs of the society's interests, wants and needs	2	3.5	8	14.0	21	36.8	15	26.3	11	19.3	$\frac{3.43}{9}$	1.069

When the responses that the participant teachers gave in relation to the achievement levels of the grade 5 social studies course learning outcomes were examined, it was revealed that a total of 34 items were found to be achieved at either a “high” (3.40-4.19) or “very high” (4.20-5.00) level.

When the responses were analyzed by learning domains, it was found that teachers’ levels of agreement for the four learning outcomes in the Individual and Society learning domain was “high” 4.070 ± 0.747 (Min=2; Max=5), for the five learning outcomes in the Culture and Heritage learning domain was “high” 3.835 ± 0.815 (Min=2.2; Max=5), for the five learning outcomes in the People Places and Environment learning domain was “high” 4.140 ± 0.649 (Min=2.6; Max=5), for the five learning outcomes in the Science technology and society learning

domain was “high” 3.888 ± 0.782 (Min=1.8; Max=5), for the five learning outcomes in the Production distribution and consumption learning domain was “high” 4.003 ± 0.779 (Min=2.17; Max=5), for the five learning outcomes in the Effective citizenship learning domain was “high” 4.105 ± 0.678 (Min=2.25; Max=5), and for the five learning outcomes in the Global connections learning domain was “high” 3.754 ± 0.826 (Min=1.4; Max=5).

One of the open-ended questions was as follows: “Do you find the achievement levels of the given learning outcomes of the new grade 5 social studies course sufficient? If not, please explain the reasons.” An analysis of the responses given to this question revealed that 44 of the participant teachers (77%) had stated that the achievement level of the new grade 5 social studies learning outcomes defined in the curriculum was “sufficient”. While 27 of the teachers who stated that it was “sufficient” only used the expression “I find it sufficient”, the remaining 17 teachers stated that they found it “sufficient” but also mentioned some factors that made it difficult to reach the learning outcomes. Among these factors were the textbook not being aligned with the learning outcomes and its insufficiency in meeting the needs with respect to content and activities. Nine of the teachers participating in the study reported that they found the achievement levels of the new grade 5 social studies learning outcomes in the curriculum “insufficient”. They also briefly stated the reasons underlying why they did not find the achievement levels sufficient. These were: an education system based on rote memorization, the abstract nature of the topics, crowded classes, low levels of student readiness, lack of equality in education opportunity, insufficiency of the textbooks and the class hours.

Another open-ended questions was as follows: “Does the achievement level of the given learning outcomes of the new grade 5 social studies course vary by each learning outcome? If so, could you please explain the reasons?” An analysis of the responses given to this question revealed that 55 of the participant teachers (96%) had stated that the achievement level of the new grade 5 social studies learning outcomes defined in the curriculum varied across each learning outcome. This was attributed to such reasons as: differences in students' interests and levels of readiness, the presence of abstract topics, students' background and cultural differences, insufficiency of class hours, whether or not they were related to daily life, and insufficient time given to address each learning outcome.

Finally, based on the responses given to the question “Could you please write the average Term I and Term II scores for the Social Studies classes you taught?”, the first term average score was calculated to be 75.94, while the second term average score was 74.57.

Results Regarding Achievement Levels of the Grade 5 Social Studies Course Learning Outcomes by Views on the Sufficiency of the Training to Introduce the New Curriculum

Table 4

Mean Values of Achievement Levels of the Grade 5 Social Studies Course Learning Outcomes based on Views on the Sufficiency Condition of the Introduction to the New Curriculum

	Group	N	M	SD	F	p	Diff
Individual and Society	Yes	10	4.050	0.864	2.972	0.060	
	Partially	28	4.286	0.560			
	No	19	3.763	0.848			
Culture and Heritage	Yes	10	3.860	0.654	2.320	0.108	
	Partially	28	4.036	0.768			
	No	19	3.526	0.897			
People Places and Environments	Yes	10	4.100	0.424	0.536	0.588	
	Partially	28	4.229	0.629			
	No	19	4.032	0.775			
Science Technology and Society	Yes	10	3.940	0.517	0.324	0.724	
	Partially	28	3.950	0.812			
	No	19	3.768	0.870			
Production Distribution and Consumption	Yes	10	4.083	0.625	0.819	0.446	
	Partially	28	4.101	0.743			
	No	19	3.816	0.899			
Effective Citizenship	Yes	10	4.175	0.590	4.611	0.014	2>3
	Partially	28	4.321	0.544			
	No	19	3.750	0.777			
Global Connections	Yes	10	3.880	0.744	3.020	0.057	
	Partially	28	3.957	0.795			
	Hayır	19	3.390	0.826			

A significant difference was found in the learning domain of Effective Citizenship based on the sufficiency condition of the training received in the introduction of the new curriculum ($F=4.611$; $p=0.014<0.05$). However, no significant difference was found in the teachers' scores belonging to the learning domains of Individual and Society, Culture and Heritage, People Places and Environments, Science Technology and Society, Production Distribution and Consumption, and Global Connections ($p>0.05$).

Results Regarding Achievement Levels of the Grade 5 Social Studies Course Learning Outcomes by Method of Participation in the Introduction to the New Curriculum

Table 5

Mean Values of Achievement Levels of the Grade 5 Social Studies Course Learning Outcomes by Method of Participation in the Introduction to the New Curriculum

	Group	N	M	SD	F	p	Difference
Individual and Society	In-service Education	11	4.068	0.571	0.385	0.764	
	Seminar	29	4.112	0.749			
	Meeting	9	3.833	0.935			
	Never Attended	8	4.188	0.810			
Culture and Heritage	In-service Education	11	3.964	0.784	0.663	0.579	
	Seminar	29	3.841	0.772			
	Meeting	9	3.511	0.965			
	Never Attended	8	4.000	0.894			
People, Places and Environments	In-service Education	11	4.109	0.476	2.460	0.073	
	Seminar	29	4.138	0.646			
	Meeting	9	3.778	0.845			
	Never Attended	8	4.600	0.385			
Science, Technology and Society	In-service Education	11	3.746	0.780	1.254	0.300	
	Seminar	29	3.821	0.795			
	Meeting	9	3.844	0.747			
	Never Attended	8	4.375	0.729			
Production, Distribution and Consumption	In-service Education	11	4.152	0.617	1.224	0.310	
	Seminar	29	3.994	0.776			
	Meeting	9	3.611	0.939			
	Never Attended	8	4.271	0.761			
Effective Citizenship	In-service Education	11	4.227	0.467	3.528	0.021	
	Seminar	29	4.164	0.705			1>3
	Meeting	9	3.500	0.685			2>3
	Never Attended	8	4.406	0.481			4>3
Global Connections	In-service Education	11	4.109	0.683	3.822	0.015	
	Seminar	29	3.669	0.779			1>3
	Meeting	9	3.156	0.968			4>3
	Never Attended	8	4.250	0.563			

Results Regarding Achievement Levels of the Grade 5 Social Studies Course Learning Outcomes by Discipline of Graduation

Table 6

Mean Values of Achievement Levels of the Grade 5 Social Studies Course Learning Outcomes by Discipline of Graduation

	Group	N	M	SD	F	p
Individual and Society	Social Studies Teaching	35	3.971	0.737		
	History Teaching	13	4.308	0.512	0.977	0.383
	Geography Teaching	9	4.111	1.032		
Culture and Heritage	Social Studies Teaching	35	3.749	0.787		
	History Teaching	13	4.123	0.580	1.053	0.356
	Geography Teaching	9	3.756	1.157		
People Places and Environments	Social Studies Teaching	35	4.109	0.616		
	History Teaching	13	4.215	0.538	0.127	0.881
	Geography Teaching	9	4.156	0.942		
Science Technology and Society	Social Studies Teaching	35	3.863	0.742		
	History Teaching	13	3.985	0.831	0.127	0.881
	Geography Teaching	9	3.844	0.942		
Production Distribution and Consumption	Social Studies Teaching	35	3.981	0.770		
	History Teaching	13	4.167	0.660	0.461	0.633
	Geography Teaching	9	3.852	1.002		
Effective Citizenship	Social Studies Teaching	35	4.086	0.694		
	History Teaching	13	4.115	0.609	0.051	0.950
	Geography Teaching	9	4.167	0.781		
Global Connections	Social Studies Teaching	35	3.709	0.864		
	History Teaching	13	3.954	0.612	0.504	0.607
	Geography Teaching	9	3.644	0.974		

No significant difference was found based on discipline of graduation in the teachers' scores belonging to the learning domains of Individual and Society, Culture and Heritage, People Places and Environments, Science Technology and Society, Production Distribution and Consumption, Effective Citizenship and Global Connections ($p>0.05$).

Results Regarding Achievement Levels of the Grade 5 Social Studies Course Learning Outcomes by Class Size

Table 7

Mean Values of Achievement Levels of the Grade 5 Social Studies Course Learning Outcomes by Class Size

	Group	N	M	SD	F	p
Individual and Society	10-20	23	3.891	0.726		
	21-30	23	4.196	0.822	1.112	0.336
	31-40	11	4.182	0.593		
Culture and Heritage	10-20	23	3.591	0.727		
	21-30	23	3.983	0.882	1.790	0.177
	31-40	11	4.036	0.784		
People Places and Environments	10-20	23	4.235	0.548		
	21-30	23	4.044	0.800	0.491	0.615
	31-40	11	4.146	0.499		
Science Technology and Society	10-20	23	3.870	0.778		
	21-30	23	3.835	0.852	0.251	0.779
	31-40	11	4.036	0.680		
Production Distribution and Consumption	10-20	23	3.971	0.741		
	21-30	23	4.036	0.812	0.039	0.962
	31-40	11	4.000	0.856		
Effective Citizenship	10-20	23	4.011	0.668		
	21-30	23	4.228	0.652	0.636	0.533
	31-40	11	4.046	0.773		
Global Connections	10-20	23	3.609	0.681		
	21-30	23	3.913	0.850	0.783	0.462
	31-40	11	3.727	1.048		

No significant difference was found by class size in the teachers' scores belonging to the learning domains of Individual and Society, Culture and Heritage, People Places and Environments, Science Technology and Society, Production Distribution and Consumption, Effective Citizenship and Global Connections ($p>0.05$).

A significant difference was found in the learning domain of Effective Citizenship based on the method of participating in the introduction of the new curriculum ($F=3.528$; $p=0.021<0.05$). A significant difference is observed in the Effective Citizenship learning domain by method of participating in the introduction of the new curriculum ($F=3.822$; $p=0.015<0.05$). However, no significant difference was found by method of the introduction of the new program in the teachers' scores belonging to the learning domains of Individual and Society, Culture and Heritage, People Places and Environments, Science Technology and Society, and Production Distribution and Consumption ($p>0.05$).

Results Regarding Achievement Levels of the Grade 5 Social Studies Course Learning Outcomes by Gender

Table 8

Mean Values of Achievement Levels of the Grade 5 Social Studies Course Learning Outcomes by Gender

	Group	N	M	SD	T	p
Individual and Society	Female	21	4.274	0.661	1.594	0.117
	Male	36	3.951	0.776		
Culture and Heritage	Female	21	4.095	0.761	1.882	0.065
	Male	36	3.683	0.817		
People Places and Environments	Female	21	4.381	0.623	2.210	0.031
	Male	36	4.000	0.631		
Science Technology and Society	Female	21	4.295	0.703	3.252	0.002
	Male	36	3.650	0.733		
Production Distribution and Consumption	Female	21	4.468	0.614	3.846	0.000
	Male	36	3.732	0.741		
Effective Citizenship	Female	21	4.262	0.594	1.342	0.185
	Male	36	4.014	0.715		
Global Connections	Female	21	4.067	0.798	2.260	0.028
	Male	36	3.572	0.796		

In terms of gender, significant differences were found in the learning domains of People Places and Environments ($t(55)=2.210$; $p=0.031<0.05$), Science Technology and Society ($t(55)=3.252$; $p=0.002<0.05$), Production Distribution and Consumption ($t(55)=3.846$; $p=0.000<0.05$), Global Connections ($t(55)=2.260$; $p=0.028<0.05$). However, no significant differences were found based on gender in the learning domains of Individual and Society, Culture and Heritage, and Effective Citizenship ($p>0.05$).

Results Regarding Achievement Levels of the Grade 5 Social Studies Course Learning Outcomes by Teachers' Years of Experience in Teaching

Table 9

Achievement Levels Of The Grade 5 Social Studies Course Learning Outcomes By Teachers' Years Of Experience In Teaching

	Group	N	M	SD	t	p
Individual and Society	10 or Fewer Years	25	3.850	0.750	-2.021	0.048
	11 or More Years	32	4.242	0.708		
Culture and Heritage	10 or Fewer Years	25	3.608	0.799	-1.902	0.062
	11 or More Years	32	4.013	0.795		
People Places and Environments	10 or Fewer Years	25	4.064	0.616	-0.782	0.437
	11 or More Years	32	4.200	0.678		
Science Technology and Society	10 or Fewer Years	25	3.776	0.857	-0.953	0.345
	11 or More Years	32	3.975	0.720		
Production Distribution and Consumption	10 or Fewer Years	25	3.907	0.842	-0.822	0.414
	11 or More Years	32	4.078	0.731		
Effective Citizenship	10 or Fewer Years	25	3.970	0.693	-1.341	0.186
	11 or More Years	32	4.211	0.657		
Global Connections	10 Yıl Ve Altı	25	3.616	0.816	-1.121	0.267
	11 or More Years	32	3.863	0.829		

Based on the teachers' years of experiences in teaching, a significant difference was found in the learning domain of Individual and Society ($t(55)=-2.021$; $p=0.048<0.05$), However, no significant differences were found in the learning domains of Culture and Heritage, People Places and Environments, Science Technology and Society, Production Distribution and Consumption, Effective Citizenship and Global Connections ($p>0.05$).

Discussion, Conclusion and Suggestions

Curriculum refers to all the planned in-class or out-of-class learning activities in any one subject. Undoubtedly the most important element of a curriculum is the learning outcomes. The degree to which learning outcomes are achieved is an indication of the extent to which the aim of the curriculum is reached.

In the study, the degree to which the learning outcomes of the new 2017 grade 5 social studies were achieved based on teachers' views was investigated; it was revealed that the learning outcomes were achieved at a "high" level. A study by Kaçar (2009) and a study by Badem (2012) investigated the degree to which the learning outcomes of the grade 6 social studies course and those of the economy and social life units in the grade 7 social studies course were achieved respectively based on teacher views. Both studies revealed that the learning outcomes were achieved at a "moderate" level. Thus, these findings are inconsistent with those revealed in the present study. This difference could be attributed to the different grade levels and the numerous novelties in the new social studies curriculum.

After the responses of the teachers given to statements related to the levels of achievement of the 2017 grade 5 social studies learning outcomes were analysed, it was observed that each of the 34 learning outcomes in the seven learning domains of the new social studies curriculum was achieved at a high or very high level. When each of the learning domains was examined in terms of the learning outcomes, it was observed that the highest degree of

achievement was in the learning domain of “People, Places and Environment”, while the lowest achievement was in the “Global Connections” learning domain. The highest achievement in the learning outcomes of the learning domain of “People, Places and Environments” could be attributed to its relevance to daily life, while the lowest achievement in those of “Global Connections” learning domain could be associated with its being positioned at the end of the academic year; it could be due to the reasons such as the relaxation of students with the warming of the weather. In terms of the learning outcomes, the highest level of achievement was in the learning outcome “Values national sovereignty and independence symbols such as the Flag and the Turkish National Anthem.” This could be attributed to the fact that the Turkish society has a high level of ownership of their national and moral values. On the other hand, the lowest achievement was in the learning outcome “Researches the society’s interests, wants and needs and recommends innovative ideas to meet these.” This could have stemmed from the fact that it was the last learning outcome of the last learning domain; hence, its being addressed at the end of the academic year when the weather warms up could have resulted in some degree of relaxation in the students.

The examination of the responses teachers provided to the open-ended questions related to the achievement of the learning outcomes revealed that teachers found the degree of achievement sufficient with justifications such as the topics and learning outcomes being free of rote memorization, their appropriateness to the grade level and their addressing the needs of the students. Thus, both findings are in consistency, and it can be concluded that the achievement of the learning outcomes was “sufficient” and of a “high” level. However, it can be observed that not all teachers achieved the learning outcomes at the same level. Teachers accounted for this by reporting that factors such as students’ varying levels of readiness, whether the topics were abstract or concrete, the variation in students’ interests and whether or not the topics were related to daily life. For this reason, it is revealed that not all learning outcomes are reached by the students at the same degree.

As for their responses regarding what they did to successfully achieve the learning outcomes, teachers reported that they made more use of educational technologies and course materials, among which was the smart board installed within the scope of the Fatih Project of the Ministry of National Education. In addition, it was revealed that teachers made use of digital technologies and used such education systems as EBA (Education Digital Network), morpa kampüs and okulistik. In addition to these, they stated that they tried to utilize different methods and techniques.

Finally, based on the teachers’ responses to the open-ended question “Could you please write the Term 1 and Term 2 average scores of the Social Studies Course you taught?”, the average scores for Term 1 and Term 2 were found to be 75.94 and 74.57, respectively. Based on these average scores, it can be claimed that the students were rather successful within their grade level and that the learning outcomes were reached at a high level.

Upon examination of the degree of achievement of the learning outcomes of the new 2017 grade 5 social studies based on teachers’ views in relation to whether or not the training received for the introduction to the new curriculum was found sufficient, it was found that teachers found the training partially sufficient. When the literature was examined, it was reported in a study by [Çelikkaya and Kürümlüoğlu \(2018\)](#), titled the Teachers’ Views on the 2017 New Social Studies Curriculum, that the in-service training of teachers was insufficient. This was attributed to the fact that the in-service trainers were not equipped and were insufficient and that the education provided did not address the implementation process of the education. A significant difference was found in the Effective Citizenship

learning domain in relation to finding education received in the new curriculum sufficient. This could be attributed to the fact that Effective Citizenship was not in the previous curriculum and was a new addition to the new curriculum.

When the means of the teachers' participation in an introductory program of the new curriculum in relation to the level of achievement of the learning outcomes of the new grade 5 social studies course were examined, no significant difference was revealed in such learning domains as Individual and Society, Culture and Heritage, People Places and Environments, Science Technology and Society, Production Distribution and Consumption.

A significant difference was found only in the learning domains of Effective Citizenship and Global Connections against the teachers whose type of participation in an introductory program related to the new curriculum was the meeting. The reasons underlying this could be the new addition of the effective citizenship learning domain, the global connections unit being positioned at the end, and the fact that the teachers who had not participated in the introduction of the new curriculum in any way were experienced. Such activities as in-service training, seminar and meeting which were conducted to introduce the new curriculum to the teachers could be said to function as a guide to teachers in achieving the learning outcomes.

When the mean values of the achievement level of the new 2017 grade 5 social studies course learning outcomes were examined by discipline graduated from, no significant difference was observed in such learning domains as Individual and Society, Culture and Heritage, People Places and Environments, Science Technology and Society, Production Distribution and Consumption, Effective Citizenship, and Global Connections. That there was no significant variance based on discipline of graduation was found to be an understandable condition on grounds that the social studies course was a discipline in which history, geography and citizenship content was embedded, that the introduction of the new curriculum was successful, and that most of the teachers were experienced.

When the mean values of the achievement level of the new 2017 grade 5 social studies course learning outcomes were examined by class size, no significant difference was observed in such learning domains as Individual and Society, Culture and Heritage, People Places and Environments, Science Technology and Society, Production Distribution and Consumption, Effective Citizenship, and Global Connections. 81% of the classes of the teachers participating in the present study had either 10-20 or 21-30 students. Thus, it can be stated that the teachers had generally normal class sizes that is classes that were not crowded. It can be deduced that this was the reason underlying the lack of variation among the learning domains by class size.

In addition to teachers' subject matter knowledge and professional features, their gender is also important in reaching educational goals. In the present study when the mean values of the achievement level of the new 2017 grade 5 social studies course learning outcomes were examined by the variable of gender, it was found that female teachers were more successful than male teachers in terms of reaching the learning outcomes. A similar finding was reported in a study by [Kaçar \(2009\)](#) on teachers' views on the achievement level of grade 6 social studies course learning outcomes whereby female teachers' level of reaching the learning outcomes was found to be higher than that of male teachers. The literature on the reasons of the variance by gender have been reviewed; the literature review outcomes are described below.

When the mean values of the achievement level of the new 2017 grade 5 social studies course learning outcomes were examined by gender, no significant difference was observed in such learning domains as Individual and

Society, Culture and Heritage, and Effective Citizenship. Female teachers' highest level of achievement in learning outcomes was in the learning domain of Production Distribution and Consumption, while their lowest level of achievement was in the learning domain of Global Connections. As for male teachers, their highest level of achievement in reaching the learning outcomes was in the learning domain of Effective Citizenship, the lowest was in the learning domain of Global Connections. In addition, when the mean values of the achievement level of the new 2017 grade 5 social studies course learning outcomes were examined by gender, a significant difference was observed in the such learning domains as People Places and Environments, Science Technology and Society, Production Distribution and Consumption, and Effective Citizenship. Based on the the fact that the achievement level of grade 5 social studies learning outcomes varied by gender in some learning domains and considering all the learning domains overall, female teachers are observed to have higher levels of achievement in all the learning domains when compared to male teachers. The reponses to the open-ended questions which the teachers were asked demonstrated that female teachers conducted lessons that were based on hands-on and experiential pedagogies. Moreover, they stated in their responses that they used appropriate methods and techniques. They were found to prefer methods and techniques that made students more active in their learning process, such as drama, role play, educative games and excursion-observation. Thus, female teachers' higher level of success in reaching the learning outcomes than male teachers could be attributed to these factors. However, it would be an inaccurate claim to state that male teachers' achievement level of the learning outcomes was low because male teachers also had a "high" level of achievement in reaching the learning outcomes.

As in all professions, experience is highly important in the teaching profession as well. When the achievement level of the new 2017 grade 5 social studies course learning outcomes were examined by the variable of years of experience in teaching, it was found that teachers with 11 or more years of experience were more successful in reaching the learning outcomes than those with 10 or fewer years of experience. This finding is consistent with that reported in a study titled 'Inexperienced Teacher Behaviors' by Özer et al. (2016). Authors revealed that inexperienced teachers made certain mistakes and experienced challenges, which impacted student success.

When the mean values of the achievement level of the new 2017 grade 5 social studies course learning outcomes were examined by years of experience in teaching, no significant difference was observed in the such learning domains as Culture and Heritage, People Places and Environments, Science Technology and Society, Production Distribution and Consumption, Effective Citizenship, and Global Connections.

It was only in the learning domain of Individual and Society where a significant variance was revealed in favor of teachers with 11 or more years of experience. A general analysis shows that teachers with 11 or more years of experience had higher levels of achievement than those with 10 or fewer years of experience in all the learning domains. This could be attributed to the high degree of professional experience and expertise in the subject matter of the teachers with 11 or more years of experience.

The teachers participating in the present study focused more on the insufficiency of the textbook. They stated that the textbook needed to be reconsidered in all respects. They mentioned negative aspects such as insufficiency in subject content, insufficiency in the exercises/activities provided to students, and excessive use of visual content.

In addition, they stated that the class hours for the subjects of Social Studies and History of Turkish Revolution and Atatürkism were insufficient, and that there was a need to make more use of technology and different methods and techniques in the lessons. They also expressed their view that an education system based on rote memorization and which continuously undergoes changes should be discontinued.

In conclusion, the present study revealed that the participant social studies teachers found the achievement level of the learning outcomes “sufficient” and that the achievement level of the learning outcomes in all the learning domains was “high”. It was observed that female teachers' levels of reaching the learning outcomes was higher than those of male teachers. This could be attributed to the fact that female teachers used teaching methods and techniques by which students learned by being engaged in experiential and hands-on learning experiences, and made effective use of various materials and technologies in their lessons. It was found that experience in teaching was effective in reaching the learning outcomes; accordingly, inexperienced teachers experienced challenges in class management and in reaching the learning outcomes. Discipline of graduation was not found to have a significant effect on achievement levels of the learning outcomes as graduates of social studies teaching and history and geography teaching are similar in terms of both being social studies disciplines. Moreover, it was found that the achievement level of the learning outcomes was higher in classes that were not crowded. It is also evident that content knowledge and general cultural knowledge play an important role in reaching the learning outcomes. The in-service trainings, seminars, and meetings conducted to introduce the new curriculum also had a positive impact. Another finding was that in terms of the new curriculum, teachers believed and made recommendations that textbooks were insufficient and needed to be reconsidered; they complained that the class hours of the Turkish History of Revolution and Atatürkism were insufficient and that the education system was continuously undergoing changes.

Recommendations

1. It was observed that not all students achieved the learning outcomes in grade 5 social studies to the same degree. The teachers who participated in the study answered the question related to this topic by attributing this to students' varied levels of readiness, whether or not the topics were concrete or abstract, students' interests, whether or not the topics were related to daily life and the inadequacy of the class hours. The closer the level of achievement of learning outcomes among students are, the more successful the education offered will be. To achieve this, teachers should implement lessons by paying maximum attention to individual differences in class. Hence, in-service training can be provided to teachers.

2. Negative statements related to textbooks are noticed in the teachers' responses to the open-ended questions of the teachers participating in the study. There are statements that refer to the insufficiency of the textbooks in terms of both content and activities. Hence, these textbooks should be reviewed in all respects. In stead of excessive visual materials, more place should be given to subject content and activities.

3. In their responses to the open-ended questions related to the learning outcomes, participant teachers complained about the insufficiency of the class hours of the Social Studies and the History of Turkish Revolution and Atatürkism courses. Therefore, the Social Studies class hours should be increased by which teachers' anxieties in regards to managing to cover the curriculum can be decreased.

4. In addition to the teachers' views regarding the learning outcomes in the 2017 new grade 5 social studies curriculum, students' views can also be obtained and compared. It is believed that this comparison will make further contributions to the related field.

5. Further studies can be conducted on the achievement level of the learning outcomes in the new 2017 grade 5 social studies curriculum.

Ethic

According to the decision of Tokat Gaziosmanpaşa University Scientific Research and Publication Ethics Committee, dated 22/05/2018 and numbered 27001677-44-E.9967342, this study received ethical approval.

Author Contributions

This study was produced from the master thesis prepared by the second author under the supervision of the first author.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Analysis of the Novel of My Sweet Orange Tree in the Context of Self-Compassion

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Abstract

In this study, it is aimed to examine the concept of self-compassion within the framework of the My Sweet Orange Tree trilogy. To achieve this aim, the factors of attachment theory, schemas, positive psychology, humanist theory, acceptance-commitment therapy, culture, religion, gender and age, which can be effective in the development of individuals' self-compassion, have been tried to be examined. The study was carried out with the document analysis method, one of the qualitative study techniques. It can be said that the results obtained are consistent with the literature. There have been previous studies on self-compassion, but studies examining more factors together are limited. Events experienced by the character Zeze, theoretical perspectives, and environmental factors have helped us to conclude that self-compassion is effective in individual's development.

Key Words

My Sweet Orange Tree • Self-compassion • Zeze

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Introduction

In a world where being average is not accepted due to the innate desire to be good (Neff, 2021), individuals may tend to inflate their self-evaluations with extreme competitiveness (Gerhardt, 2010; Twenge, 2010) as a result of different pressures (Alicke & Preuss, 2009). However, since not all individuals will be above the average, they will encounter inadequacy and feel unsuccessful (Neff & Germer, 2022), and the competitive and humiliating part of the self will be triggered (Gilbert, 2009) and the situation will cause the individual to suffer. In other words, although everyone wants happiness and avoids pain (Lama, 1995) nature does not promise to make us happy by giving the best (Potter, 2019). Because our brain is designed to focus on the negative so that we can survive, not so that we can see the beauty around us (Ak, et al., 2022). Our brain structure has evolved over centuries to cope with threats, to take advantage of opportunities that encourage survival and reproduction (Gilbert, 2014). Despite this, people treat themselves more harshly than others in bitter situations (Neff, 2003a). Because most people have difficulty in giving themselves the compassion they show to their environment (Neff, 2021).

After protecting us in times of danger like a double-edged sword, our brain can cause us to constantly ponder on what would have happened if the danger had not passed, thus causing us to inflict pain on ourselves (Gilbert, 2014). The concept of self-compassion, which has existed in eastern culture for centuries (Salzberg, 1997) against this cruelty of people towards themselves, was put forward as an alternative to concepts such as self-esteem (Seligman, 1995), self-competence (Bandura, 1990) as a result of the interaction of psychology with the philosophy of Buddhism (Neff, 2003a). The concept of self-compassion, which has been recently adapted to Western culture (Neff, 2003a), was translated into Turkish from the Latin word *compassion* (Strauss et al., 2016). Self-compassion, which is defined as a person's directing compassionate attitudes and behaviors towards himself (Neff, 2003a), although sometimes perceived as weakness, actually gives the individual the courage to face distressing emotions (Kolts, 2012). In other words, self-compassion is accepted as one of the healthy ways to deal with grief and difficult experiences (Neff, 2003a).

Self-compassion, which emerges from the concept of compassion (Neff, 2003b), is also defined as striving to relieve another's pain (Wispe, 1991) with a broader perspective (Strauss, et al., 2016; Neff, 2011), accepting that others can suffer as well. Although self-compassion is perceived as being in pain when defined in this way, it is not about self-pity (Neff, 2011). Because self-pity pushes the individual to lack of self-compassion with inaction and uncertainty (Neff, 2003a; Neff, 2003b). As to self-compassion, it requires recognizing humanity shared with kindness and being careful when thinking about one's negative aspects (Neff, 2011). In this way, individuals develop an understanding perspective instead of judging themselves (Neff, 2003a). In order for a person to develop self-compassion, he must be strong, determined and courageous with emotional kindness (Gilbert, 2014). As a result, self-compassion refers to an individual showing the same compassion to others as to himself. (Neff, 2011). This does not mean being selfish or putting one's own needs before others (Germer, 2009).

While defining self-compassion, which does not have a universal definition, Neff (2003a) examined the concept empirically and stated that it consisted of three basic structures. Each component contains positive and negative sub-dimensions (Neff, 2003b). Germer (2009) and Neff (2003b) stated positive components as polite behavior, common

experiences of humanity and awareness and expressed that with these components, individuals would embrace rather than pity themselves. The negative dimensions of the components were defined as criticism against polite behavior (self-judgment), isolation against awareness of common sharing (common humanity), and hyper-identification against mindfulness (Neff, et al., 2019). In the face of isolation (Neff & Germer, 2022), which causes more severe distress, the individual believes that this situation develops only due to his failure and inadequacy (Neff, et al., 2019). Courteous behavior is the individual's giving himself the care and attention he needs in the face of distress and inadequacies (Neff, 2003b; Neff, 2009). Courteous behavior involves being kind and sensitive to oneself rather than criticizing oneself (Neff, 2011). On the other hand, in self-judgment, it is observed that the individual has a punishing or corrosive attitude towards himself in the face of distress and inadequacy (Neff, et al., 2019). Being aware of the common sharing (common humanity), that is, knowing that pain and difficulties can be experienced by everyone, is a natural part of being human (Neff, 2003a; Gilbert, 2014). It has the aim of encouraging individuals to a deep sense of belonging within a sense of common humanity. (Neff & Knox, 2017). When it is not approached in this way, the individual would experience disconnection as he suffers due to his weakness (Neff, 2011). The last sub-component of awareness, on the other hand, allows the individual to see clearly the aspects of his life (Neff, 2021), to live without classifying his experiences as good, bad, beautiful, ugly, and to be open to experiences in a balanced way (Brown & Ryan, 2003). Because the individual must be aware of the pain in order to show compassion; an individual who ignores common experiences may think that he is the only one who suffers (Germer, 2009). An individual who cannot take a meta-perspective because of this thought may experience over-identification (Neff, 2003b). Along with over-identification, negative thoughts, and obsessive emotions will occur, and as a result, the mind will be busy and the level of self-compassion will decrease (Neff & Tirsch, 2013). The concept of self-compassion is a whole with its examined sub-dimensions. Many factors affect the specified concept and its sub-dimensions. These can be exemplified as attachment theory, schemas, positive psychology, humanistic theory, acceptance and commitment therapy, post-traumatic stress disorder, and environmental factors. In this study, My Sweet Orange Tree trilogy written by Jose Mauro de Vasconcelos based on his own life story will be examined with the concept of self-compassion. It is also possible to examine self-compassion in a longitudinal way, as it is assumed that the work was written on the basis of the author's life and that he conveyed the character of Zeze from childhood to his early teenage years, in search of love and compassion.

As a result of the research, it was found that the compassion that the individual shows to himself is beneficial for mental health (Neff et al., 2007). In the international literature on self-compassion for the last two decades, and in the national literature for the last ten years, studies about life satisfaction (Neff, 2003b; Umphrey & Sherblom, 2014; Bluth & Blanton, 2014), humor and effective communication skills (Neff et al., 2005; Leary et al., 2007), resilience and psychological well-being (Neff, et al., 2007; Neff & McGehee, 2010; Neff et al., 2008), awareness and resilience (Neff, 2003b), happiness-optimism (Neff, et al., 2007; Neff & Vonk, 2009; Neff et al., 2007), psychological positive self and parental perception (Neff, et al., 2007; Neff & Vonk, 2009), depression (Fard, 2016), anxiety (Pauley & McPherson, 2010), stress (Bluth & Blanton, 2014), eating disorders (Ferreira et al., 2013), self-rumination (Neff & Vonk, 2009) and psychological stress (Thimm, 2017) have been carried out. Although there are studies in the

literature about the concept of self-compassion (Diedrich et al., 2014), which is accepted as a kind of emotion regulation, these are not at the desired level.

Although its actuality has increased recently, the concept of self-compassion is not only a concept in science, but also a concept that appeared in literature a long time ago. With this study, it is aimed to examine the concept of self-compassion from different perspectives, to ensure that information about self-compassion is learned better through a literary work and to present it as an example to those working in the field. The study is important in terms of being an example of novel analysis in the field and discussing the data obtained from the novel in a theoretical framework.

Method

In this study, the works written by Brazilian writer José Mauro de Vasconcelos in the form of a trilogy with the name of My Sweet Orange Tree are analyzed with a qualitative research design. The books were examined with the document analysis method, which is one of the qualitative research methods. The document analysis method is called as the researchers' detailed scanning of the information and written texts about the facts and events and the creation of a whole from this information (Creswell, 2002).

Data Collection Tool

As data collection tool, the novels My Sweet Orange Tree, Let's Wake Up the Sun and Loose Cannon, written by Mauro de Vasconcelos, were used. The life of the novel's hero, Zeze, from the age of five or six to his first adulthood, is narrated by Zeze. The novel consists of the hero's early school years, his family and friends, his relationship with the sweet orange tree, his adoption, secondary school education, his relationship with his family and people at school, his choice of profession, and how his dreams affect him, and these are discussed in terms of self-compassion in this study. Within these headings, it has been examined how Zeze's self-compassion is shaped and from what it is affected.

Analysis of Data

The collected data were analyzed by the researchers within the framework of self-compassion, different perspectives and factors, and with information about the development of self-compassion based on Zeze's life story and what he told. As a result of the review, self-compassion was sectioned as attachment theory, schemas, positive psychology, humanistic theory, acceptance-commitment therapy, culture, religion, gender, and age. The book was examined according to these determined subject headings, the data were grouped and interpreted with the examples obtained from the book and given in the findings.

Results

In this part of the study, the findings obtained from the research are included. The findings are evaluated within the framework of the specified topics.

Human offspring need support longer than other species to survive, this support is not only perceived as food and shelter, but the offspring also depend on the parent for the biological regulators of their immature physiological and emotional systems (Potter, 2019). As a result of the attention the individual receives, oxytocin release begins which

functions as a sedative in the individual and also supports the individual's self-compassion development (Neff, 2003c). Studies have shown that even just imagining compassion and kindness triggers the calming system and calms the threat system (Gilbert, 2014). The quality of this relationship with the caregiver is also very important (Bowlby, 1969). The release of oxytocin, which comforts the infant with warmth and gentle touch (Neff, 2003c), influences attachment during infancy, which in turn shapes the child's capacity to cope with stress (Bowlby, 1973), to love people, to feel supported and safe (Carter, 1998; MacDonald & MacDonald, 2010). The same system occurs when self-compassion is shown to the individual, and the threat system disappears, allowing the care system to come into play (Neff, 2021). Although Bowlby states that attachment behavior is completed at the age of two or three, the attachment that occurs continues throughout life; it is effective in determining emotions, thoughts, and behaviors (Bowlby, 1969; 1973). Bowlby, who says to activate attachment memories by showing kindness to the client in therapy (Gilbert, 2009), has shown in his studies that attachment increases brain development (Cozolino, 2007; Cozolino, 2008; Gerhardt, 2007) and immunity increases and the release of stress hormones decreases (Gilbert, 2009; Neff, 2021). Similarly, it has been revealed that attachment in adulthood is related to the quality of the relationship and people's perspectives on themselves (Hazan & Shaver, 1987; Shaver & Hazan, 1988). Securely attached individuals consider themselves to be lovable and able to receive help in times of need (Mikulincer & Shaver, 2003). In secure attachment, the individual will perceive himself as being supported, secure and accepted, thus the ability to calm himself in difficult situations will develop (Mikulincer & Shaver, 2007). In this respect, it is expected that individuals with secure attachment have high self-compassion (Neff & Beretvas, 2013). It has been revealed that there is a negative relationship between anxious-avoidant attachment, which is one of the other attachment types, and self-compassion (Neff & McGehee, 2010; Neff & Beretvas, 2013; Wei et al., 2011). It has been determined that individuals with anxious attachment have more self-centered features and the ability to prioritize their own needs (Mikulincer & Shaver, 2007). It has been observed that individuals who are not sufficiently relieved in their early stages tend to be more embarrassed by and criticize themselves more, and it is assumed that their self-compassion levels are low (Gilbert, 2009). Self-compassion includes actively relaxing and soothing oneself in times of struggle (Neff & Knox, 2017). The capacity to be compassionate may remain passive in children whose attachment/soothing system is not actively stimulated and developed in childhood (Gilbert, 2014). The caregiver for Zeze, who started to share his story from the age of four or five, is his older sister Gloria –who looks like him, his mother, and his other older sister.

In this process, Zeze is expected to care for his brother named Luis, who is two years younger than him. His older sister, Gloria, whom he often says resembles himself, supports him by complimenting him on how handsome he is and the beauty of his affection for his brother. His uncle Edmunda tells Zeze that he is a brain teaser and answers his questions one by one. Similarly, the primary school teacher often tells Zeze that *you have a gentle heart, you are a child with a heart of gold*. His friend Martinez, whom he prefers to call Portuga, was expressing his good thoughts about Zeze by saying that he was smart as a poison and *you made this old man's heart soft*. Zeze heard similar sentences from some teachers in his next school. There was consistency among the individuals specified in the caregiving process, but this consistency was primarily in the direction of meeting basic needs. His teacher at school also tried to make Zeze feel that he was a loved one and often supported him by giving pocket money for lunch time.

He added that when he frightened a pregnant woman with black pantyhose in the neighborhood, he was beaten by his mother with slippers and even while telling about this, he added that his mother later regretted and felt sorry for him. When Zeze cut his foot, his sister provided first aid, but they hid Zeze's injured foot from the family in case they got angry. On New Year's Eve, which is considered an important holiday, the family consumed toast and coffee instead of a rich table. It is stated by Zeze that the meals eaten on other days are similar. From this point of view, it is understood that there are problems in the family regarding adequate nutrition. In addition, Zeze is aware that the family economy is bad even at a young age, and when he offends his father with his words, he tries to do things like polishing shoes and singing to make up for his mistakes. It is not possible to interpret that there is a secure attachment between him and his father because he does not see his father very often like his mother, his father cannot work while his mother is working, and he cannot see the father's love and attention that he wants. Zeze tried to satisfy the attention and love he wanted from his father with the dream of Portuguese Martinez and later the actor Moris. He wanted to be sick all the time because of his father's taking care of him while he was sick during the adoption period. In his youth, when his relationship with his father started to improve, he tried to end his relationship with his girlfriend by making self-sacrifice from time to time in order not to lose this interest. His father's trust in him, his love and caress were among the things that could not be exchanged for the world for him. He had the thought that one day he would love his father as he was, and it really did happen one day.

It has been determined that the attachment established in childhood is carried out through romantic relationships in adulthood (Hazan & Shaver, 1987). In a study conducted between romantic relationship attachments established in adulthood and self-compassion levels, it was found that there was a positive relationship between secure attachment and self-compassion, and a negative relationship between anxious-fearful attachment and self-compassion. (Neff & Beretvas, 2013; Neff & McGehee, 2010; Wei, et al., 2011). In the study conducted by Bolt (2015), it was revealed that there is a significant relationship between self-compassion and partner affection and romantic relationship quality and satisfaction. Accordingly, individuals with low self-compassion and partner affection have lower romantic relationship quality. It has been concluded that individuals who experience negative romantic, family and friendship relationships have lower self-compassion levels (Bayar, 2016). It can be stated that Zeze's character develops a secure attachment in his partner relationships and relationships with other adults in the future. However, information about the attachments between birth parents and adoptive parents in the book is too limited.

The environment in which the child lives in the early stages of his life is effective in shaping his self-compassion. Discovering the environment as a safe place in childhood is related to the reactions of caregivers (Bowlby, 1969; 1973). Physical and emotional abuse experienced during childhood decreases the level of self-compassion (Neff, 2021) and as a result, it increases the possibility of more emotional stress, alcohol use and suicidal behavior (Tanaka et al., 2011). Zeze was present environments where he can learn self-compassion in his childhood, albeit a little. When talking about the household, he talks about all of them with their good features. In more detail, he tells that he receives compassion from outside, and while talking about his mother he says that *although she beats me, she treats me affectionately* and *my sister Gloria supports me because we look alike*. When examined from the perspective of parental attitudes, the self-compassion levels of individuals who grew up in an authoritarian-strict family environment were found to be significantly lower than those who grew up in a democratic environment (Neff, 2003a;

Sargin, 2012; Sargin, 2018). It has been revealed that positive mother-positive father perception during adolescence is in a positive relationship with self-compassion (Andiç, 2013). There were certain rules, both in the first family in which Zeze was brought up and in the family where he was given up for adoption. While Zeze had the right to make changes to some of them, some had strict limits and could not be changed. For example, he had to study the piano for a certain period of time in his adoptive family. But even though he didn't get it right away, he gave up playing the piano by stating that he didn't want it and sacrificing some of his rights. Apart from these, there were some clear rules such as rosary time, news listening time and the precision of meal times, and these rules had to be followed. From time to time, Zeze's more comfortable religious views originating from different sects were greeted with astonishment by the people around him and his family.

The concept of self-compassion begins with the child's perception of the concepts of *me* and *not me*. Because at that time he begins to discover the common sense of humanity that connects himself and others (Kirkpatrick, 2005). Humanist theory defines developing potential as self-actualization (Neff, 2021). Rogers (1960), one of the founders of the theory, stated that change can occur when the individual is self-motivated. Maslow argues that if the need for change that comes with growth is not met, the individual becomes stagnant, stops actively exploring the inner and outer world, and will stop discovering the human flaws (Neff, 2021). In the process of self-development, Zeze made his progress first with the bird in his heart, then with the sweet orange tree, after he was adopted, with Adam, the Cururu frog living in his heart by making him feel compassion, and with the dream of Moris, whom he calls my father. He shared his experiences during the day with these imaginary characters and tried to reach better places in his life and to show compassion himself by telling himself the positive information he heard from others as if they were saying it. For example, although he knew that he had to have tonsil surgery, he accepted what his teacher Father Feliciano had said, assuming he was convinced after his imaginary father Moris told him so the next day.

Like the cognitive-behavioral theory, which is based on the thoughts of individuals, Buddhism philosophy states that the world can be shaped by thoughts. Because both eastern and western philosophers stated that emotions activate thoughts and thoughts inflame emotions more often and put them in a vicious circle (Gilbert, 2014). This thought parallels the understanding that what works is not curse or grace, but thought, as philosophers who lived centuries ago stated (Potter, 2019). Both theories provide guidance on how to deal with some thoughts (Gilbert, 2009). Among the exercises to learn to develop self-compassion, there is a part about how to focus on the worst possible outcome (Gilbert, 2014) and it works just like the question of what happens worst in cognitive behavioral techniques. After hearing about cognitive behavioral therapy, Gilbert (2009) thought about the theory's focus on evolution and compassion and speculated about how erroneous thoughts could be changed with trainings. Zeze thought that there were some who could not find even this, no matter how poorly they lived in their early childhood. With this thought, he shared the money his teacher gave him to buy something to eat at school with another student who was worse off than him and was ostracized by his friends. He showed similar kindness when caring for his younger brother, Luis.

The importance of focusing on the moment in terms of gaining cognitive awareness is mentioned in the Gestalt Therapy approach (Perls, 1972). With the chair techniques applied in the Gestalt approach, the concept of here and

now provides the individual to gain awareness by confronting them over a different role (George & Christiana, 1990). It is assumed that the acceptance phase will begin in the individual who realizes their positive or negative characteristics through confrontation (Corey, 1982). Zeze expressed the problem between him and Martinez, with whom a father-son relationship was established later, and the things he was uncomfortable with when he got into his car after the glass cut his foot. In this way, he accepted the situation and faced his unfinished business, thus creating a different friendship, father-son relationship between them.

Schema therapy states that schemas are shaped by individuals' early negative experiences (Young et al., 2003). In line with the definition, the existence of a relationship between schema therapy and self-compassion can be examined. In other words, the negativities experienced in the early period may limit the ability of individuals to use self-compassion (Germer, 2009). Negative childhood experiences, exposure to maltreatment (Vettese et al., 2011) and events together with early maladaptive schema development can affect emotional reactions and cause a lower level of self-compassion (Masomi et al., 2014). As a result of schema and self-compassion-themed studies (Thimm, 2017; Yakın et al., 2019), it has been concluded that there is a relationship between emotional deprivation schema, failure and enmeshment schemas, insufficient self-control and others-directedness schemas and self-compassion. Among the specified schema areas, the rejection schema area can be encountered as a result of not meeting basic needs, and failure and enmeshment schemas as a result of overprotective or neglectful parental attitudes (Young et al., 2003). Studies have shown that emotional deprivation and self-compassion mediate emotional autonomy (Koçak & Çelik, 2021). Zeze has always been one of the best students throughout his education life, but he did not do this within the framework of perfectionism. It was found that self-motivation (Williams et al., 2008) and self-compassion were positively related to coping with academic failure (Neff, et al., 2009). In this process, while the individual motivates himself, the language he uses against himself is soft and supportive (Neff, 2011). In addition, in the study conducted by Neff (2011) it was found that individuals with higher self-compassion levels were less likely to compare themselves with others in terms of academic or other issues. Zeze also did not blame himself when he fell second in academic studies. He tried to evaluate the situation from his own point of view. Zeze had sincere friends. Their conversation with Zeze took place in a supportive and compassionate way. In addition, Zeze found many fun activities while spending time on his own. Although he has friends who support him emotionally, he has a fairly firm idea that his fictional characters understand him better. Since he believed that they could not understand him, he did not share this thought with anyone except Father Feliciano. Based on these sentences, it can be said that Zeze's emotional deprivation score may be high. Meal times consisted of toasted bread and coffee with his birth family. Even on Christmas, which is considered an important day, Zeze reproached his father for not receiving gifts and having nothing but toast and coffee on their table. One of his brothers, Totoca told Zeze, after this reproach that *you are evil, you are like the devil*. In other words, there were times when he could not see the friendship support from his siblings. In the face of such situations, Zeze often cried because of the thought that he is of no use to anyone, and he thought that he was indeed such a person. On the other hand, positive schemas were formed as a result of Zeze's relations with Gloria, his mother Martinez and his primary school teacher.

It has been observed that those who show self-compassion with post-traumatic stress disorder show less avoidance strategies (Thompson & Waltz, 2008; Vettese, et al., 2011). Close (2013) found that the level of self-

compassion was negatively correlated with showing symptoms of post-traumatic stress. In other words, it can be assumed that individuals with low self-compassion may show more stress and anxiety reactions as a result of negative events that may cause traumatic effects. Individuals who are compassionate towards themselves are less likely to develop post-traumatic stress disorder after trauma (Neff, 2021). In a different study, it was concluded that in individuals with post-traumatic stress symptoms, those who received social support had higher self-compassion levels (Gündoğan & Sargin, 2018; Maheux & Price, 2016). When Zeze, who lost Martinez, fell ill, all of his family, neighbors and even his friend with whom he sang on Tuesdays came to visit and tried to support him. Although he saw what kind of grief his brother Totoca went through as a result of losing his bird, Zeze did not easily get over it. Also, what he heard about the sweet orange tree being cut down made it more difficult for him to overcome this process. Studies have found that traumas encountered as a result of early childhood experiences also affect the level of self-compassion (Germer & Neff, 2015). After the death of Portuguese Manuel, whom he said *I learned the compassionate side of life from you*, Zeze experienced a great shock and then showed post-traumatic symptoms. He tried to describe it when he said that *every time I closed my eyes, I could see how the train hit Manuel's car*. With the effect of shock, he did not talk to anyone for a long time, could not recover from diseases, and tears constantly flowed from his eyes. He had the same inexperience in every period of his life in stopping the tears in his eyes. Even in his early youth, he had tears in his eyes, even when he was arguing with his older sister in the house where he was adopted, and thinking about his father's illness.

Working with acceptance and commitment therapy, Leaviss and Uttley (2015) stated that the psychological flexibility sub-dimensions of this theory –acceptance, values, cognitive defusion, flexible contact with the present moment, self as context, stability in value-driven behaviors (Hayes et al., 2011)– have a relationship with sub-dimensions of self-compassion which are acceptance and awareness. With awareness, there is balancing the painful experience by noticing it (Brown & Ryan, 2003), that is, accepting it as it is instead of suppressing it (Neff & Beretvas, 2013). As stated by Neff (2021), the concept of fierce self-compassion conveys the accepted and put into action aspect of self-compassion. In other words, the individual who does not try to change negative emotions will reach positive emotions more easily by embracing them, thanks to acceptance in both self-compassion and acceptance commitment therapy (Neff, 2003a). Although Zeze was interested in the geography lesson in his youth, he struggled with the phrase ‘geography is a lesson specific to the lazy and vagrant’ at first and tried to direct himself to other courses and professional fields. However, in time, he accepted his love of geography and that his profession would be in this field, assuming that he was a vagrant and lazy person, and continued his interest in geography, and realized his first professional experiments in this framework. In his early adulthood, he heard the sentence, “The city we live in is small, there are worlds inside you,” in his conversation with his father, and he tried to shape his life plan by interpreting this as receiving a blessing from his father.

In the effect of environmental factors on self-compassion, culture, gender and age range can be examined. Culture tends to provide a false narrative about self-compassion (Neff, 2021). Individuals tend to be more compassionate towards others than they are to themselves (Neff & Knox, 2017). Because in many cultures, care and compassion for others is considered positive, while directing it to oneself is perceived as passivity or weakness (Neff, 2021). In a study conducted by Neff (2003a), they found that individuals who came from Buddhism culture had

higher levels of self-compassion than those who did not. Self-compassion studies started in Brazil, the country where Zeze lived, in the same years as Turkey, and the first scientific research was carried out by [Castilho and Gouveia \(2011\)](#), to bring the self-compassion scale into the literature. According to the data of the Brazilian Embassy, 86% of the people are Christians and the rest are dispersed among different religions. There is a thought that the negative situations encountered in the world are the punishment of God, even there is a belief in an old Christian sect that the universe was created by a malevolent god ([Gilbert, 2009](#)). Based on these findings, Brazilian people are more likely to be distant to the concept of self-compassion. It is assumed that this situation, which is desired to be seen in society, may negatively affect the development of self-compassion ([Koçak & Çelik, 2021](#)). While Zeze was very affectionate towards his own brother Luis, he displayed a similar attitude to himself less frequently. Later in his life, he showed compassionate behavior even to his dog, and tried not to deprive himself of this affection. When Zeze was not even six years old he took great care of his brother Luis, took care of him and played games with him. He carefully answered his questions. At that time, he did not exhibit a similar behavior for himself. He exhibited a similar behavior when he broke his own father's heart, and tried to win his father's heart by making an unexpected sacrifice from his age, working all day. In the same way, he made a sacrifice by breaking up with his lover, as he made it up with his father, whom he was adopted by, during his illness and did not want to lose it. Despite this, he thought that in his early childhood, when he only drank coffee and ate bread, he thought that there were people who could not find even these, and that he should be thankful. He shared his meal with his friend who was in a poor condition. After his life with Martinez, he started to treat himself more affectionately. The change in the environment in which he lives may also have an effect on this.

In studies conducted on self-compassion and religion, which has an impact on culture, [Yağbasanlar \(2017\)](#) found a positive relationship among them, while [Neff et al. \(2008\)](#) did not. For more than 3000 years, compassion has been seen in many religions and cultures in the human mind and its healing process ([Gilbert, 2009](#)). When he was a child, Zeze was called the devil's son in his first neighborhood. After a while, Zeze also accepted this title. He and his own brothers often reproached that the baby Jesus only gave gifts to the wealthy at Christmas. In his later life, although he was educated in the schools where he was given religious education, he tried to understand religion by asking questions, but he gave up asking questions to people because he could not find satisfactory answers. However, he often prayed as a coping method when he faced stress, and his prayer behavior was reinforced because it saved him from trouble. When he learned that his father was going to have a second surgery, he went to the church to pray for healing. One day, while talking to his teacher, he stated that religion is actually good.

Babies begin to perceive the difference in the concept of gender when they are 3-8 months old, and when they are 4-5 years old, they begin to describe men as tough and brave, and women as gentle ([Neff, 2021](#)). Although the concepts of kindness and compassion are associated with women, studies have shown that women's self-compassion levels are lower than men's ([Neff, 2003a; Neff, et al., 2005](#)). The findings were similar in the study conducted with young girls and boys ([Bluth et al., 2017](#)). It has been found that women judge themselves more than men in the face of negative situations, have repetitive thoughts ([Neff, et al., 2007](#)) and feel lonely ([Sümer, 2008](#)). The basis of this situation is the higher standards for women determined by the society ([Neff, 2003c; Tor et al., 2015](#)). Considering the period in which the book was written, the situation works in a slightly different process. While parents and even

children, leaving their education, may have to work in the first family, it is sufficient for the father to work in the family where Zeze is adopted. There were staff members who provided support for cooking and cleaning in the house, and when Zeze started to hit adolescence, he was forbidden to enter the kitchen where the staff was and to address the employees by their names. This situation makes us feel that there are differences between men and women, and status relationships, even if they are invisible.

When his brother Luis cried when they went to the place where free toys were distributed on the next day of the New Year and could not get toys, Zeze consoled him that *you have the name of a king, someone with a king's name does not cry*. When Luis asked why he was crying, he stated that he did not have the name of a king and that he was a cull and that it would be okay for him to cry. When Zeze cried on the day he reconciled with his father, his father tried to console him by saying that if you become such an emotional child, you will have a hard time in life. One day when he was sad, Zeze asked the sweet orange tree, *Xururuca if it would be a shame if I cried*, and the tree replied that it was not shameful to cry and that crying is a condition that exists for all people. Based on the information, although crying in society is associated with feelings such as shame or weakness, Zeze has also learned that he has a soft heart and therefore it is normal to cry. His teacher Feliciano reinforces the normality of his behavior by wiping his tears without judgment when Zeze cries. Similarly, although he did not like the sweet orange tree when he first encountered it, when he looked carefully, he realized that its trunk resembled a horse and that it was a child like himself, and he embraced it. Zeze, saddened by realizing that when it blooms at the time of fruiting it grows like himself, he learned mindful awareness from the sweet orange tree.

When the subtitle of age is examined, especially the adolescence period is emphasized. In this period, individuals are considered as a risk group because they develop incompatible relationships with themselves and their environment (Kendall-Tackett, 2002), and exhibit behaviors such as alcohol-substance abuse (Cicognani & Zani, 2014; Dunn et al., 2002) and self-dislike (Gilbert & Procter, 2006). Studies have shown results that support the predictions, and adolescence has been identified as the period with the lowest self-compassion score (Neff, 2003a). In a study conducted with students in this period, it is seen that there is a tendency to dangerous sports activities (Diehm & Armatas, 2004). During his adolescence, Zeze was interested in swimming and could take this swimming business to dangerous levels at his own risk. Even once, when he was so open that he wanted to die, he reached the shore with the help of a fishing boat and went home, and struggled with different problems due to being late at home. Although he thought of doing a similar behavior with the poison stone he secretly took from the chemistry cabinet, he gave up on it thanks to his teacher. He started smoking, also, in adolescence to avoid these problems. It has been concluded that individuals develop a more positive perspective towards their own bodies with self-compassion (Braun et al., 2016). In a study, it was found that self-compassion exists as a protective factor in body image and eating disorders in women (Neff & Knox, 2017). Zeze, who was stated to be handsome by his father during adolescence and had a healthy and fit body due to sports, struggled a lot with himself about his nose. He tried different techniques to shrink his nose and failed. In a study, it was found that with self-compassion training, the idea that all living things deserve compassion is settled (Neff & Knox, 2017) and psychological well-being increases (Neff et al., 2010). In a different study, it was concluded that as the age increases, the self-compassion that individuals show towards themselves also increases, and that self-compassion predicts psychological well-being

between the ages of 59-95 (Homan, 2016). At the end of the book Zeze says, *now I'm the same age as my friend Martinez. I try to make children happy by buying them soda and marbles*. When Zeze states that he is at Martinez's age, it also shows parallelism with the period of research findings. In other words, the level of self-compassion that individuals show to themselves can vary according to the age range.

In a study conducted by Breine and Chen (2012) on past moral violations and self-compassion, on the concept of morality and moral thought (Gilbert, 2009), which is one of the concepts that compassion is closely related to, it was shown that as the level of self-compassion increases, individuals have more motivation to try to repair past harms and not repeat mistakes. Immoral behaviors are triggered in higher arousal states by the brain's desire to attain more (Simon-Thomas et al., 2012). While the individual adopts the rules of justice and morality on the basis of parental punishment and praise during childhood, he then exhibits behaviors related to the moral values of the group he is affiliated with. (Gilbert, 2009). Adopting moral rules can also be shaped within the concepts of deserve and need (Batson et al., 1995). Drawing attention to two types of moral thought, Gilligan (1982) distinguished them as fairness-justice and care-emotions. Although the character of Zeze is a mischievous child, when he realizes that people are hurt by this situation, he tries to win their hearts. In the neighborhood where they just moved to, he waited wisely alone at home so that the neighbors would believe that he was good. After frightening a pregnant neighbor with black pantyhose, he regretted it, saying he didn't know she was pregnant. When he was caught stealing flowers from someone else's garden to bring flowers to his primary school teacher, he defended himself by stating that it was unfair that there was not a flower only in his teacher's glass, but he also stated that he would not repeat it. When he scared people in the forest by saying that the spirit has come, he continued to be mischievous until he was caught, but he stated that the reason was his anger at people's bigoted thoughts. In his early childhood, when he upset his father on New Year's Day, he tried to make up for the situation by working until the evening the next day and trying to buy gifts that would please him.

Conclusion and Recommendations

Self-compassion is the individual's being kind to himself in the face of inadequacies and failures and accepting that these situations can happen (Neff, 2003a; Raes, et al., 2011; Ak & Kesici, 2021). In this way, the individual can look at life from a wider perspective (Neff, 2021). However, if the individual is resistant to self-compassion, it is unlikely that they can develop deeper levels of compassion (Tsering, 2008). Just as Tsering stated, Zeze left his parents and had similar problems with his adoptive family. Zeze somehow rejected his father's attempts to show rapprochement and affection. In fact, although he aims to take an objective stance and create a safe emotional distance against negative events (Finlay-Jones, Rees & Kane, 2015) with this behavior, he sometimes accepts the experiences as they are and was able to maintain a healthy attitude (Neff, 2003a; Neff, 2003b; Neff et al., 2007). Studies have also concluded that individuals who are self-compassionate are happier and more resistant to difficulties (Kolts, 2012). Zeze who said in the first book that compassion is something that forms piecemeal, created parts of his own compassion with various factors throughout his life. Although it was difficult in the beginning, Zeze started to take the form of a character that is more compassionate towards himself in the later parts of the book. At the end of the book, Vasconcelos states that he understands self-compassion not only as passive self-pity, but as trying to take it

into his life with all its dimensions, with these sentences: “Now I know that there is a compassionate side of life. Compassion sometimes makes me happy and sometimes disappoints.”

Written by Jose Mauro de Vasconcelos, one of the important writers of world literature, the Sweet Orange trilogy has a special importance because we can examine not only the field of literature but also the concept of self-compassion. The concept of self-compassion, which affects the lives of individuals by many factors, can be observed in the Sweet Orange Trilogy and therefore has been examined. It was observed that the findings matched the literature information.

In the trilogy, which is examined in relation to attachment, schemas, positive psychology, humanist theory, acceptance-commitment, perspectives and culture, religion, gender and age factors in the formation of self-compassion, it has been observed that how self-compassion affects the individual. Based on these results, some suggestions are offered. Similar academic studies can be done. Different novels can also be used in the lessons and in the processing of the subjects.

Ethic

It should be stated which ethics committee approval was obtained from the research data. (Date, Number of Board Decisions)

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Conflict of Interest

The authors declare that they have no conflict of interest.

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Growth Mindset Theories According to Students' Nutritional Behaviors

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Abstract

This study aims to explore the students' growth mindset theories in terms of nutritional behaviors. The study sample consists of 3782 students studying at high schools in different regions of Türkiye. While 61.9% of the students in the sample are females, 38.1% are males. 79.2% of the students study at Anatolian High School, 16.4% at Vocational High School, and 4.4% at Science and Social Sciences High School. In this study, which was designed with the quantitative research method and analyzed with the SPSS 18.0 program, The Mindset Theory Scale (MTS) was used to describe the mental structures of high school students. According to the research results, while the students' meat consumption behaviors did not make a significant difference in the growth mindset theories, the egg and milk consumption behaviors made a significant difference. Agricultural group (vegetable, fruit, and grain) nutritional behaviors made a significant difference in students' growth and fixed mindset theories. The growth and fixed mindset theory dimension mean scores do not differ significantly according to the chocolate, sugar, and salty consumption behaviors of the students. According to the results of the research, the nutritional behaviors of the students affect the growth mindset theories. Therefore, actions can be developed for students' awareness of healthy eating behaviors. Similar studies can be carried out by collecting students' food consumption on the same subject with the data obtained with ratio scales.

Key Words

Fixed Mindset • Growth Mindset • Nutritional Behaviors • Student

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Introduction

The mindset theory is the belief that individuals can improve their abilities and characteristics in the process of realizing and doing certain situations. This belief consists of variables such as self-vision, self-evaluation, self-regulation, self-motivation, and success (Dweck, 2016; Haimovitz & Dweck, 2017, Yilmaz & Güven, 2022). There are two dimensions to students' mindset theories: fixed and growth mindset theory. The fixed mindset is the belief that an individual is born with the characteristics and that they cannot be changed or improved. The growth mindset theory is the belief of the individual that basic human characteristics can be developed, that is, individual differences such as intelligence, talent, disposition, and interest can be developed (Dweck, 2012; Dweck, 2016). These beliefs of individuals can be influenced by their diet.

Nutritional behaviors of individuals express the tendency that emerges with their food consumption patterns (Öztürk, 2010). In other words, nutritional behavior is an individual's eating-drinking habits and preferences (Duyff, 2006). The studies in the literature have evaluated nutrition as a factor that affects the genetic structure and determines brain development and personality (Bayar, 2018). Consumed foods provide the body's metabolic energy needs and affect many brain functions, including mind and cognition functions. Studies indicated that foods and nutrition affect mood and behavior and contribute to both physical and emotional well-being (Flaskerud, 2015; Özenoğlu, 2018). Nutrition is considered a factor that affects the genetic structure and determines brain development (Gültekin, 2013). Our lifestyle and diet have a dramatic impact on brain plasticity and neuronal function. For healthy thinking, healthy eating is a fact. There is an increasing evidence that foods regulate neural plasticity and neuronal function, which change our short/long-term cognitive and emotional behaviors, and this issue has even become the subject of a new and very important science called "nutritional neuroscience" (Dauncey, 2009). Nutritional behaviors of students can affect their beliefs about their intelligence and abilities. No study has been found in the literature examining the relationship between students' nutritional habits and growth mindset theories. The findings of the study will contribute to the field in this respect.

This study aims to examine the growth mindset theories of students in terms of nutritional behaviors. For this purpose, answers to the following questions were sought:

- Do the growth and fixed mindset theory scores differ according to the nutritional behaviors of the students' animal product group (meat, egg, and milk)?
- Do the growth and fixed mindset theory scores differ according to the students' agricultural group (vegetable, fruit, and grain) nutritional behaviors?
- Do fixed and growth mindset scores differ according to the chocolate, candy, and salty group food consumption behavior variable?
- Do students' nutritional behaviors affect the variability in growth and fixed mindset theory?

Theoretical Framework

In the theoretical structure dimension of the study, theoretical explanations were made about the relationship between the growth mindset theory, nourishment, and beliefs.

The Mindset Theory

Mindset is the cognitive framework we use while making our meanings and interpretations with the cognitive activities related to the work we perform (French, 2016; Mather et al., 2013). Mindset theory is an individual's positive-negative belief that personality traits such as intelligence, talent, and temperament can be developed (Haimovitz & Dweck, 2017). Belief, on the other hand, is the unidimensional organization of perceptions and cognitions that an individual develops as a result of experiences related to a phenomenon, event, or situation (Erden & Yıldız, 2023). These beliefs are; one of the most important factors affecting the personality and potential of individuals is their way of thinking (Dweck, 2016). According to the mentality theory, the belief systems that an individual develops for personality traits such as their abilities and intelligence take place in two dimensions. These are fixed mindset and growth mindset (Dweck, 2016, Dweck, 2012; Güven & Yılmaz, 2017; Haimovitz & Dweck, 2017; Yılmaz, 2021)

The fixed mindset dimension of mindset theory is the belief that qualities such as intelligence or talent are unchangeable (Yeager & Dweck, 2012). This belief is the belief that the basic characteristics of individuals are innate and cannot be changed or developed later (Dweck, 2016; Yeager & Dweck, 2012). Students with a well-developed fixed mindset, above all, care about how they will be judged in the choice of "Intelligent" or "Not Intelligent". These students often do not know or do not believe that they can know and correct their mistakes, and they try to hide the error instead of correcting it. These students are afraid to put in the effort because making the effort makes them feel like a failure. According to them, if a person has talent, he does not need effort and talent alone can bring success (Bayrakçeken et al., 2021). A fixed mindset can drag students to procrastination. These students may prefer inaction and inaction to do and change something (Yılmaz, 2021). Students who are in procrastination do not easily give up their truth and value judgments (Schein, 1990). At the same time, individuals who are in procrastinate do not easily give up their old habits and thoughts and do not accept that change and innovation can support them (Çankaya & Demirtaş, 2010). Negative reactions to change can create resistance (Zaltman & Duncan, 1977). Students with fixed mindsets are resistant to change. These students do not want to act, insist, and overcome obstacles (Yılmaz, 2021; 2022).

The growth mindset is a belief that a trait such as intelligence or talent can be grown or developed over time (Beere, 2016; Dweck, 2012; Keenan, 2018; Orosz et al., 2017; Yeager & Dweck, 2012). Students with a growth mindset perceive perseverance, decisiveness, effort, and study as learning tool. Such students also use feedback to improve, and students with a growth mindset are inspired by the success of others and focus on learning with these characteristics (Dweck, 2012). Students with advanced growth mindsets try different learning strategies and try to get meaningful feedback and think that these contribute to their learning (OECD, 2021). This feature can enable them to develop an awareness of their learning processes. Therefore, they are under the control of their learning (Stec, 2015). Thus, growth mindsets enable students to increase their self-efficacy by increasing their learning and academic

success (Keenan, 2018). According to O'Rourke et al., (2014), students with developed growth mindsets are aware of their learning ways and learn in that way, they try to overcome difficulties and make an effort to learn. These students tend to be lifelong learners and are motivated by their personal development, they do not see failure as a threat, and they continue to learn to succeed (Dweck, 2012; Ng, 2018).

Table 1

Comparison of Growth Mindset and Fixed Mindset

Dimensions	Growth mindset	Fixed mindset
Grit	He/she does not shy away from difficult tasks.	He/she thinks that he will not be able to cope with difficult tasks.
	Despite the obstacles, he/she tries to reach his goal.	When faced with obstacles, he/she stops reaching goals.
	He/she is persistent.	It's a tendency to give up.
Variance	He/she thinks that talents can be developed.	Talents are stagnant and hard to develop.
	It can develop intellectual abilities.	It is impossible to develop intellectual abilities.
	Intelligence can develop.	Intelligence is in the form it is innate.
	He/she enjoys trying new things.	Don't try new things because it creates stress.
Feedback	The brain has a developing structure.	Improving the brain is impossible to change.
	He/she sees feedback as an opportunity to learn.	Feedbacks are meaningless.
	Use feedback to improve.	Doesn't care about feedback.
Comparison	Takes inspiration from others.	The success of others has come from their talents.
	Trying to learn from the success processes of others.	It's none of her business how others succeed.
Patience	Getting started takes patience.	It is useless to deal with difficulties.
Error	The error is an experience and an opportunity to learn.	If I made a mistake, I have to try this job again.
	There are different ways a job can be done.	If I've made a mistake, other ways won't work for that job either.
Ability	It works with effort.	If there is talent, there is no need for effort.
Action-taking	They think that if there is work, it must be done immediately and overcome.	They enter procrastination in their work.
	He/she motivates himself while doing work, he is self-confident.	Feels threatened while doing business.
Learning process	They can control and manage learning processes.	They are passive in their learning processes.
	Experimentation and meaningful feedback are important.	My learning and academic achievement are a measure of my abilities. There's nothing that can be done.

The difference between individuals with a growth mindset and those with a fixed mindset is seen in Table 1. Individuals with a growth mindset exhibit superior behaviors in all dimensions (grit, variance, feedback, comparison, patience, error, ability, action-taking, and learning process). Research supports the growth mindset theory, stating that the brain's plasticity increases over time, learning leads to significant development in human intelligence, and

individuals make significant progress when they face obstacles and demonstrate effort and perseverance (Au et al., 2015). Dweck (2016) suggests that individuals with a growth mindset are courageous, are not discouraged by failure, and are more resilient in the face of challenges, which leads to greater success.

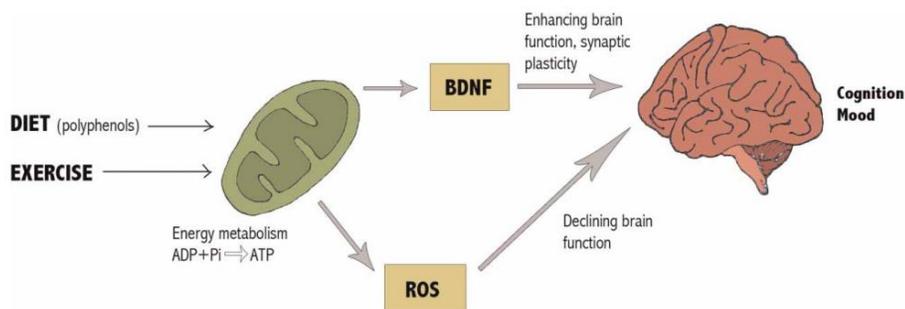
Nutrition and growth mindset

Nutrition and its effects on neuroscience have become a research area. Nutritional cognitive neuroscience is a rapidly expanding interdisciplinary field that seeks to understand the impact of nutrition on cognitive and brain health (Zamroziewicz & Barbey, 2016). Studies in this field have found that nutrition affects brain structure and function across a wide range of diets, from specific nutrients to whole diets (Polidori et al., 2021).

Food intake stimulates metabolic processes found in mitochondria, which are the main vessels of energy metabolism that convert organic matter in the body into available energy. Mitochondrial activity can modulate neural signaling pathways and molecules depending on neuronal function. This relationship between metabolic activity and neuronal function suggests that our nutritional and exercise habits can influence the molecular mechanisms that define our mental learning capacity. BDNF (Brain Derived Neurotrophic Factor) is the most active neurotrophin in brain regions associated with cognition, such as the hippocampus and cerebral cortex. BDNF is known for its effect on the maintenance, survival, growth, and differentiation of neurons. BDNF is critical for normal neural development, as it enhances learning capacity and memory formation by stimulating synaptic plasticity in neurons (Zuccato & Cattaneo, 2009)

Figure 1

Energy Metabolism and Cognition (Gomez-Pinilla ve Nguyen, 2012).



BDNF affects various aspects of energy metabolism and a mutation in the BDNF receptor tyrosine kinase can lead to metabolic disorders such as obesity by causing extremes in brain energy balance. BDNF demonstrates close involvement in energy metabolism processes, and neuronal plasticity indicates a connection between diet intake and brain function. Nutrition and exercise can affect cellular metabolic activity which also affects neuronal plasticity and cognitive processes. It is possible for ATP produced by energy metabolism to activate BDNF, a molecule that increases synaptic plasticity. Energy production also produces oxidative byproducts known as ROS, which can lead to excessive levels of oxidative stress. Oxidative stress weakens synaptic plasticity and cognitive function (Gomez-Pinilla & Nguyen, 2012). Synaptic plasticity is related to brain development and can indirectly be associated with

intelligence. There is a significant relationship between brain volume and intelligence. Brain volume can be associated with nutrition, and nutrition can also be assumed to affect a person's growth mindset.

METHOD

Research Model

The model of the study was designed with the causal comparison research model within the scope of quantitative research methods. The causal comparison model is a model that aims to determine which variables cause the differences between groups and the results of these differences without changing the conditions and participants (Büyükoztürk et al., 2013). The independent variables of the research are the consumption behaviors of animals, agriculture, and the chocolate-candy-salt group. The dependent variable of the study is the mental structure (growth and fixed mindset) characteristics of high school students.

Universe-Sample

The universe of the study is 6 million 543 thousand 599 students studying in high schools in Türkiye. While determining the number of people in the sample, a simple random sampling method was used to provide the quantitative representation power of the high school students in the universe. The number of people in the sample was reached with the sample calculation formula (Özdamar, 2003).

$$n = \frac{N \cdot \sigma^2 \cdot Z_{\alpha}^2}{(N-1) \cdot d^2}$$

While making calculations based on the sampling formula, the number of people in the population (N)=6.543.599, the standard deviation of the population ($\hat{\sigma}$)= 7,10; Z_{α} = 0.05, a value of 1.96 was accepted as an acceptable error level (d)=0.5, $n = \frac{6.543.599 \cdot 7,10^2 \cdot 1,96^2}{(6.543.599-1) \cdot 0,5^2} = 395$. The minimum number of students that should be in the sample was calculated as 395.

Table 2

Statistical Data About the Sample Group

Gender	Frequency (f)	Percentage (%)
Female	2340	61,9
Male	1442	38,1
The type of the school		
Anatolian High School	2997	79,2
Vocational High School	617	16,4
Science and Social Sciences High School	168	4,4
Grade		
9	1259	33,3
10	1485	39,3
11	1038	27,4
Region		
Mediterranean	641	16,96
Black Sea	316	8,35
Aegean	412	10,89
Marmara	1175	31,07
Central Anatolia	723	19,12
Eastern Anatolia	207	5,47
Southeast Anatolia	308	8,14
Total	3782	100

The sample of the study consists of 3782 students studying at high schools in different regions of Turkey. While 61.9% of the students in the sample are girls, 38.1% are boys. 79.2% of the students study at Anatolian High School, 16.4% at Vocational High School, and 4.4% at Science and Social Sciences High School. 33.3% of the students are in the 9th grade, 39.3% are in the 10th grade, and 27.4% are in the 11th grade. 16.96% of the students are in the Mediterranean Region of Türkiye, 8.35% in the Black Sea Region, 10.89% in the Aegean Region, 31.07% in the Marmara Region, 19.12% in the Central Anatolia Region, 5.47% of them study at schools in the Eastern Anatolia Region and 8.14% in the Southeastern Anatolia Region.

Data Collection Tools

In the study, the "Mindset Theory Scale" was used to describe the mental structures of high school students and the "Personal Information Form" was developed by the researchers to determine some demographic characteristics.

Mindset Theory Scale

The Mindset Theory Scale (MTS) developed by Yılmaz (2021) was used to describe the mental structures of high school students. MTS consists of 13 items. Exploratory (EFA) and confirmatory factor analysis (CFA) was applied to determine the construct validity of the scale. The four-factor structure of the scale was confirmed by CFA. In addition, the differences between the averages of the upper and lower groups of 27% in the scale items were significant. The results of the reliability analysis found .72 for the procrastination sub-dimension of the fixed mindset dimension, .80 for the belief in invariance, .70 for the effort sub-dimension of the growth mindset dimension of the Mindset Theory Scale (MTS), and .77 for the belief in improvement. The internal consistency coefficient for the fixed mindset dimension of the Mindset Theory Scale was .72, and .71 for the growth mindset dimension. MTS can

be scored separately with its dimensions and its sub-dimensions. A score between 7 and 35 is taken from the fixed mindset dimension of the MTS, and between 6 and 30 from the growth mindset dimension of the MTS (Yılmaz, 2021). This study used the fixed and growth mindset dimensions of MTS. In the study sample, the internal consistency coefficient for the fixed mindset dimension of the MTS is .83 and .84 for the growth mindset dimension. The reliability coefficient of the whole MTS is .87.

Data Collection

“Mindset Theory Scale” and “Personal Information Form” have been turned into online forms. The link of the data collection tools was sent to the sampled people. On the other hand, verbal explanations were made through messages and calls where people who wanted to voluntarily answer the questions in the data collection tool had difficulties in understanding or wanted an explanation.

While determining the food consumption of the students, answers were obtained by creating categories based on units for fruit, eggs, sugar, and salty foods, glasses for milk, plate units for meat and meat products group, and vegetables and grains group. The Plate Model has been recommended by the Swedish diabetes association and the British nutrition group committee diabetes association since 1987. The Plate Model is an effective method used in improving the intelligibility of visual messages, placing them in memory, and estimating the portion amount without errors. It is an effective model for measuring, determining, and calculating the amount of food consumed by people whether at home or outside (Haven et al., 2006; Neuman, 2011).

Data Analysis

The presence of missing data in the data collected within the scope of the research was examined. According to Acuna and Rodrigue (2004), it can be tolerated if the missing data rate is less than 5% and shows a random distribution. Considering this criterion, 15 missing data were removed from the data set with this review. While examining the assumption of normality in the collected data set, one-way outliers can be checked by converting the scores for the items into Z scores (Tabachnick & Fidell, 2007). Firstly, 53 data whose Z value was outside the range of +3 and -3 were accepted as univariate outliers and were removed from the data set. Then, the normality of the data set collected in the study was tested with the skewness and kurtosis coefficient.

Table 3

Normality Values of Study Data

Dimensions and sub-dimensions of MTS	Average	Median	Mode	Skewness Coefficient	Kurtosis Coefficient
Fixed mindset	17,21	17	16	.365	-.362
Growth mindset	23,68	24	24	.047	-.184

According to George and Mallery (2016), if the skewness and kurtosis values are between -2 and +2, the distribution can be accepted as the normal distribution. The skewness coefficients of the fixed and growth mindsets are respectively .365 and -.362. The kurtosis coefficients of the Constant and Growth mindsets are respectively .47

and -.184. Since these values are in the range of -2 to +2, it is accepted that the data set provides normality assumptions.

Factorial ANOVA was tested on the differentiation of students' Fixed and Growth Mindsets according to their meat-meat products, dairy-dairy products, eggs, grains, vegetables, and fruits. A one-way ANOVA test was used to differentiate students' fixed and growth mindsets according to their chocolate, candy, and salty consumption behaviors. The homogeneity of the groups was tested with the Levene test. Tukey test was used to determine the source of differentiation in the dimensions that differed as a result of the ANOVA test. The significance level of the study was accepted as $p < .05$. IBM SPSS Statistics for Windows was used in the analysis of the data. According to Cohen (1988), the effect size is "low" in the range of 0.01 - 0.06, a range of 0.06 - .138 is defined as "medium", and .138 and greater is defined as "large".

FINDINGS

Factorial ANOVA was conducted to compare the interaction effect of mindset theories on growth mindsets according to the protein animal product group (meat, egg, and milk) nutritional behaviors of the students.

Table 4

The Results of the Factorial Anova Test Show the Comparison of Growth Mindsets According to the Nutritional Behaviors of the Students' Animal Product Group (Meat, Egg and Milk)

Source of Variance	Sum of Squares	df	Mean Square	F	η^2
Meat and meat group	58,59	3	19,53	1,50	,001
Egg	196,72	3	65,57	5,05**	,002
Milk	109,51	3	36,50	2,81*	,001
Meat and meat group * Egg	95,00	9	10,55	,81	,001
Meat and meat group * Milk and dairy products	145,04	9	16,11	1,24	,002
Eggs * Milk and dairy products	253,05	9	28,11	2,16*	,003
Meat and meat group * Eggs * Milk and dairy products	458,86	27	16,99	1,30	,005
Error	95410,75	7351	12,97		

* $p < .05$; ** $p < .01$

According to the results of the analysis, the meat consumption behaviors of the students did not make a significant difference in the growth mindsets ($F=1.50$; $p > .05$). Egg consumption behaviors of students on growth mindsets made a significant difference ($F=5,05$; $p < .01$, $\eta^2 = .002$). Milk consumption behaviors of students with growth mindsets made a significant difference ($F=2,81$; $p < .05$, $\eta^2 = .001$). The egg and milk consumption behaviors of students have a low level of influence. The interaction of the students' egg and milk consumption behaviors made a significant difference in the students' growth mindsets ($F=2,16$; $p < .05$, $\eta^2 = .003$). Meat*egg, meat*milk, and meat*milk*egg interactive consumption behaviors of students did not make a significant difference in growth mindsets ($p > .05$).

Tukey's multiple comparison tests were applied to determine which group or groups had a significant difference. The number of students who consume eggs every day is significantly higher than the students who have eating behaviors that do not consume once every two days, once a week, and never ($p < .05$).

Table 5

Factorial ANOVA Test Results Showing the Comparison of Fixed Mindset According to the Nutritional Behaviors of the Students' Animal Product Group (Meat, Egg and Milk)

Source of Variance	Sum of Squares	df	Mean Square	F	η^2
Meat and meat group	319,906	3	106,635	4,62**	,002
Egg	183,455	3	61,152	2,65*	,001
Milk	109,474	3	36,491	1,58	,001
Meat and meat group * Egg	507,138	9	56,349	2,44*	,003
Meat and meat group * Milk and dairy products	409,419	9	45,491	1,97*	,002
Eggs * Milk and dairy products	255,186	9	28,354	1,23	,002
Meat and meat group * Eggs * Milk and dairy products	751,737	27	27,842	1,20	,004
Error	169326,829	7351	23,035		

* $p < .05$; ** $p < .01$

According to the results of the analysis, the meat consumption behaviors of the students with fixed mindsets made a significant difference ($F=4,62$; $p < .01$, $\eta^2 = .002$). Meat consumption behaviors of students have a low level of influence. The fixed mindset scores of the students who show meat consumption behaviors every day are significantly higher than those of the students who have eating behaviors that do not consume once every other day, once a week, and never ($p < .05$).

The egg consumption behaviors of the students with fixed mindsets made a significant difference ($F=2,65$; $p < .05$, $\eta^2 = .001$). Students' egg consumption behaviors have a low level of influence. The students who do not show egg consumption behaviors have significantly higher fixed mindset scores than the students who consume it every day, every other day, or once a week. The fixed mindset scores of the students who show egg consumption behaviors every day are significantly lower than those of the students who consume once a week and do not consume eggs ($p < .01$). The fixed mindset scores of the students who showed egg consumption behaviors at intervals of one day were significantly lower than those of the students who showed egg consumption every day and once a week, and behaviors that did not consume eggs at all ($p < .01$). While the fixed mindset scores of the students who have egg consumption behaviors once a week are significantly higher than those who do not show any egg consumption behaviors, it is significantly higher than those who consume it every day and every other day ($p < .01$).

Milk consumption behaviors of students with a fixed mindset did not make a significant difference ($F=1,58$; $p > .05$). The interaction of the students' meat and egg consumption behaviors made a significant difference in the students' fixed mindset ($F=2,44$; $p < .05$, $\eta^2 = .003$). The interaction of the students' meat and milk consumption behaviors made a significant difference in the students' fixed mindset ($F=1,94$; $p < .05$, $\eta^2 = .002$). Egg*milk and

meat*milk*egg interactive consumption behaviors of students did not make a significant difference in growth mindsets ($p > .05$).

Table 6

Factorial ANOVA Test Results Showing the Comparison of Growth Mindsets According to the Students' Agricultural Group (Vegetable, Fruit and Grain) Nutritional Behaviors

Source of Variance	Sum of Squares	df	Mean Square	F	η^2
Fruits	274,82	3	91,60	7,06**	,003
Vegetables	108,29	3	36,09	2,78*	,001
Grain	287,26	3	95,75	7,38**	,003
Fruits * Vegetables	231,37	9	25,70	1,98*	,002
Fruits * Grain	146,11	9	16,23	1,25	,002
Vegetables * Grain	113,24	9	12,58	,971	,001
Fruits * Vegetables * Grain	393,69	27	14,58	1,12	,004
Error	95410,75	7351	12,97		

* $p < .05$; ** $p < .01$

According to the results of the analysis, the fruit consumption behaviors of the students with the growth mindset made a significant difference ($F=7,06$; $p < .01$, $\eta^2 = .003$). According to the multiple comparison analyses, the growth mindset scores of the students who display fruit group consumption behaviors every day are significantly higher than those of the students who do not consume at all, consume once a week, and consume every other day ($p < .05$). The growth mindset scores of the students who show fruit group consumption behaviors with one-day interval are significantly higher than those of the students who do not consume fruit at all and show consumption behaviors once a week ($p < .05$). Fruit group consumption behaviors of students have a low level of effect on their growth mindsets.

The vegetable group consumption behaviors of the students and their growth mindset scores made a significant difference ($F=2,78$; $p < .05$, $\eta^2 = .001$). The vegetable group consumption behaviors of the students have a low effect on the growth mindset. Grain group consumption behaviors and growth mindset scores of the students made a significant difference ($F=7,88$; $p < .01$, $\eta^2 = .003$). Grain group consumption behaviors of students have a low effect on growth mindset. The interaction of the fruit and vegetable consumption behaviors of the students made a significant difference in the growth mindsets of students ($F=1,198$; $p < .05$, $\eta^2 = .002$)

According to the multiple comparison analyses, students who eat vegetables and grains every day have growth mindset scores that are significantly higher than those who either never consume these foods, eat them once a week, or eat them every other day, based on their fruit and vegetable consumption categories ($p < .05$). The growth mindset scores of the students who showed consumption behaviors of vegetables and grains in one-day intervals were significantly higher than those of students who did not consume any vegetable and grain group foods and showed consumption behaviors once a week ($p < .05$). The growth mindset scores of the students who showed grain group food consumption behaviors once a week were significantly higher than those of the students who did not show any consumption behaviors ($p < .05$).

Table 7

Factorial ANOVA Test Results Showing the Comparison of Fixed Mindsets According to the Students' Agricultural Group (Vegetable, Fruit and Grain) Nutritional Behaviors

Source of Variance	Sum of Squares	df	Mean Square	F	η^2
Fruits	253,08	3	84,36	3,65 *	,001
Vegetables	236,79	3	78,93	3,41 *	,001
Grain	526,31	3	175,43	7,59 *	,003
Fruits * Vegetables	112,16	9	12,46	,54	,001
Fruits * Grain	388,20	9	43,13	1,86	,002
Vegetables * Grain	135,63	9	15,07	,65	,001
Fruits * Vegetables * Grain	622,68	27	23,06	,99	,004
Error	95410,75	7351	12,97		

*p < .05; **p < .01

According to the results of the analysis, fruit consumption behaviors of the students made a significant difference in the fixed mindset scores ($F=73,65$; $p<.05$, $\eta^2 = .001$). Fruit group consumption behaviors of students have a low level of effect on their growth mindsets. According to the multiple comparison analyses, the fixed mindset scores of the students who display fruit group consumption behaviors every day are significantly lower than those of the students who do not consume it at all and consume it once a week ($p<.01$). The fixed mindset scores of the students who showed fruit group consumption behaviors at intervals of one day were significantly lower than those of the students who did not consume fruit at all and showed consumption behaviors once a week ($p<.01$).

The vegetable group consumption behaviors of the students and their fixed mindset scores made a significant difference ($F=3,41$; $p<.01$, $\eta^2 = .001$). Grain group consumption behaviors of students and fixed mindset scores made a significant difference ($F=7,59$; $p<.01$, $\eta^2 = .003$). The grain group and vegetable group consumption behaviors of the students each have a low effect on the growth mindset.

The fixed mindset scores of the students who show vegetable and grain consumption behaviors every day are significantly lower than the students who do not consume at all and consume once a week ($p<.01$). The fixed mindset scores of the students who showed consumption behaviors of vegetables and grains at intervals of one day were significantly lower than those of the students who did not consume any vegetable group foods ($p<.01$) and who showed consumption behaviors once a week ($p<.05$). The growth mindset scores of students who show grain and vegetable group food consumption behaviors once a week are significantly higher than those of students who do not show any consumption behaviors ($p<.01$).

Table 8

Findings Related to Comparisons between Fixed and Growth Mindset Scores According to Chocolate, Candy, and Salty Group Food Consumption Behavior Variable

Mindset theory	Chocolate, Sugar, and Salty Consumption	n	\bar{X}	ss	Levene's Test; p	F	Difference Between Groups (Tukey)
Fixed mindset	A. Never	348	17,36	4,74	2,38;p>.05	7,73**	B<D C<D
	B. Once a week	1839	16,89	4,72			
	C. Every other day	2612	17,10	4,72			
	D. Every day	2616	17,55	4,91			
Growth mindset	A. Never	348	24,41	3,69	1,70; p>.05	8,46**	A<B, A<C, A<D, B<D
	B. Once a week	1839	23,87	3,58			
	C. Every other day	2612	23,63	3,60			
	D. Every day	2616	23,51	3,68			

*p < .05; **p < .01

According to the results of the analysis, the fixed mindset dimension score average does not differ significantly according to the chocolate, candy, and salty consumption behaviors of the students (F=7.73; p>.01). As a result of the Tukey test, the fixed mindset scores of the students who consume chocolate, candy, and salty groups every day are significantly higher than those of the students who consume it once a week and every day (p<.05). There was no significant difference between the other groups (p>.05)

When the results of the one-way ANOVA test are examined, the growth mindset dimension average score does not differ significantly according to the consumption behaviors of the chocolate, candy, and salty groups (F=8.46; p>.01). As a result of the Tukey test, the growth mindset scores of students with behaviors of never consuming chocolate, candy and salty foods were significantly higher than those of students in other groups (p<.05). Similarly, the growth mindset scores of the students who have the behavior of consuming chocolate, candy and salty group foods once a week are significantly higher than those of the students who have the behavior of consuming every day (p<.05). There was no significant difference between the other groups (p>.05).

Discussion, Conclusion and Recommendations

While meat consumption behaviors of students did not make a significant difference in growth mindsets, egg, and milk consumption behaviors made a significant difference. The growth mindset scores of the students who consume eggs every day are significantly higher than those of the students who have eating behaviors that do not consume once every two days, once a week, and never. According to the results of the analysis, the meat and egg consumption behaviors of the students with fixed mindsets made a significant difference. While the fixed mindset scores of the students who show meat consumption behaviors every day are significantly higher, the fixed mindset scores of the

students who consume eggs every other day are significantly lower. The animal product group (meat, egg, and milk) of the students have a low level of influence on the growth mindsets of their nutritional behaviors.

Some studies have shown that nutrition and interactive food groups have positive effects on cognitive performance from many nutrients, mediated by cortical volume in certain brain regions (Gomez-Pinilla & Nguyen, 2012; Zamroziewicz et al., 2015; Zamroziewicz & Barbey, 2016). Positive changes in nutritional behaviors, cognition, and brain volume of individuals may lead to beliefs that they can improve their intelligence and abilities. A study by Suzuki et al. (2019) found that animal-based foods such as cheese negatively affect cognition. Boyle et al. (2019) found that products derived from bovine milk reduce stress and positively affect cognitive performance, attention, and concentration. The positive effect of egg consumption on the growth mindset is a remarkable finding of the research. The egg is a food rich in vitamin D (Barnkob et al., 2020; Baysal 2014; Eskici, 2020; Morse 2012) also vitamin D3 and 25(OH)D3 are found in animal foods such as fish, meat, offal, eggs, milk, and dairy products (Ovesen et al., 2003). Vitamin D has positive effects on cognitive skills (Ma et al., 2019; Owusu et al., 2019; Sultan et al., 2020; Zajac et al., 2020). As can be understood from these explanations, feeding behaviors based on animal products can affect growth mindsets.

Agricultural group (vegetable, fruit, and grain) nutritional behaviors made a significant difference in the growth and fixed mindsets of the students. The growth mindset scores of the students who show nutritional consumption behaviors in the agricultural group every day and every two days are significantly higher. The students' agricultural group (Vegetable, Fruit, and Grain) nutrition behaviors have a low level of influence on their growth mindsets. The fact that students have no and low level of the agricultural group (vegetable, fruit, and grain) nutrition behaviors causes a significant increase in fixed mindset scores but has a low level of effect.

Studies have found positive effects of fish, grains, fruits, and vegetables on individuals' cognition and neurological skills. In particular, the traditional Mediterranean diet is considered to be particularly beneficial (Alcalay et al., 2012; Dauncey, 2015; Edwards et al., 2020; Kuroda et al., 2019; Psaltopoulou et al., 2013; Uenobe et al., 2019). According to the results of this research, we can assume that the positive effects of agricultural product consumption behaviors on cognition may also affect growth mindsets. It is rich in plant-based polyphenols, anthocyanins, carotenoids, flavonoids, folic acid, vitamins, and fiber, and these are also necessary for normal brain function (Dyall et al., 2015; Román et al., 2019).

Growth mindsets are associated with greater self-confidence, resilience, and positive emotions, while fixed mindsets are associated with greater anxiety, stress, and self-devaluation. Growth mindsets lead to higher serotonin levels, and fixed mindsets lead to higher cortisol levels (McCarthy, 2022). People with growth mindsets are generally less stressed, live happier, and continue to work hard despite setbacks (Andrews, 2014). Since serotonin is synthesized from the amino acid tryptophan in the brain, consuming foods containing tryptophan (meat, fish, chicken, eggs, milk, yogurt, cheese, nuts, fruit, and vegetables) helps people feel calmer, happier, and more energetic (Eskici, 2020). Furthermore, certain food groups such as fruits and vegetables, legumes, whole grains, nuts, and olive oil included in the diet can improve cognitive function (Mottaghi et al., 2018; Román et al., 2019; Theodore et al., 2021). According to these explanations, students' nutritional habits based on agricultural products may affect their growth mindsets.

The fixed mindset dimension point average does not differ significantly according to the chocolate, candy, and salty consumption behaviors of the students. The fixed mindset scores of the students who consume chocolate, candy, and salty groups every day are significantly higher than those of the students who consume it once a week and every other day. The growth mindset scores of students with behaviors that never consume chocolate, candy, and salty foods are significantly higher than those of students in other groups. Longitudinal studies have shown that unhealthy Western dietary habits, including consumption of sugary drinks, refined foods, fried foods, processed meat, refined grains and high-fat dairy products, biscuits, appetizers, and pastries, are associated with an increased risk of depression (Mengi, 2016; Özenoğlu, 2018). These findings support the research results. It may cause students to develop negative feelings towards the abilities of chocolate, sweets, and salty foods. As a result, nutrition, nutritional management, and strategies may be effective in preventing cognitive impairment (Gutierrez et al., 2021), and it shows that certain food groups regulate the engagement of neural systems (Key et al., 2019). From all the discussions, we can think that the nutritional behaviors of the students affect both their cognition skills and their emotional states. Growth mindsets are an individual's belief in their abilities. Both the cognition and the affective dimensions of this belief can be affected by the individual's eating behaviors.

According to the results of the research, growth mindsets affect the nutritional behaviors of students. Actions can be developed for students' awareness of healthy eating behaviors. When the effects of chocolate, sweets, and salty foods on fixed mindset and the nutritional opportunities of students in schools are evaluated together, measures can be taken to reach school-based healthy nutrition products and develop policies related to this.

In the study, the nutritional behaviors of the students were measured according to the answers they gave through the questionnaire and collected in the form of categorical data. Similar studies can be carried out by collecting the food consumption of students on the same subject with the data obtained with proportional scales.

This study was conducted with a sample of high school students. A similar study can be carried out on children studying at different educational levels.

Ethic

I declare that the research was conducted in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

Author Contributions

This article was written with the joint contributions of two authors.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Image of Teaching Profession According to Teachers Evaluations

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Abstract

This study, which was carried out using a mixed method research model, aims to explain how teachers' thoughts and observations about the image of the teaching profession and their suggestions for solutions to the problems related to the image of the teaching profession are seen by those who perform the profession. The research was conducted in Konya. Quantitative data were obtained from 439 teachers by stratified random sampling method and qualitative data were obtained from 16 teachers by maximum diversity sampling method. According to the quantitative findings of the study, it was concluded that the image of the teaching profession was at a medium level, the sub-dimensions of professional and personal characteristics, professional attractiveness and status were at a high level, and the dimensions of social perception and media were at a low level. According to the qualitative findings of the study, most of the teachers who participated in the research see the image of the teaching profession at a very low level or negatively. In order for the image of the teaching profession to reach a better level, the statements that teachers should continuously improve themselves and exhibit positive behaviours, and the suggestions that the Ministry of National Education and political actors should take care of teachers and better explain the activities and practices of teachers to the society came to the fore.

Key Words

Image • Image of the teaching profession • Teachers' evaluations

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The word "image", which originates from the Latin root "imago" (picture or image), has passed into Turkish from French and is defined as "imagery" in TDK. The word imagery is defined as something conceived in the mind and longed to be realised, imagination, dream; and general appearance, impression, image. When TDK's definition is examined, it is seen that the first definition emphasises the future and the future, while the second definition is a description of the current situation. In the Oxford Advanced Learners' Dictionary image is defined as the impression that a person, organisation or product etc. gives to the public. When the literature is examined, it is seen that many scientists express the concept of image in different ways. [Linkemer \(1997\)](#) states that there are as many definitions as the number of people trying to define image. [Aydmhoğlu \(2014\)](#) states that image is used as a concept that concerns many fields and whose definition differs from person to person. Image is generally related to how we perceive an object, person, institution, brand, country, etc. Since each person's perception will be different from the other, it is natural for an object, person, institution, brand or country to have more than one different image ([Ilıcak Aydınalp, 2014](#)).

Image is the meaning of a phenomenon according to the mental world and perception of individuals. In other words, it is the impression left by a person or an organisation in the minds of other people and organisations. Image is realised in the mind of the individual depending on the process under the influence of certain factors ([Dincer, 1998](#)). Image is the individual's evaluation and interpretation of the information obtained through various channels. These channels include advertisements, natural relations, cultural environment and prejudices ([Bakan, 2005](#)). In another definition, image is the thoughts of people about an object, organisation or another person formed at the end of a series of information processes ([Öneren, 2013](#)). When the literature is analysed, we see that the definitions are generally concentrated around the concepts in Figure 1 below.

Figure 1

Some Expressions in the Definitions of the Concept of Image

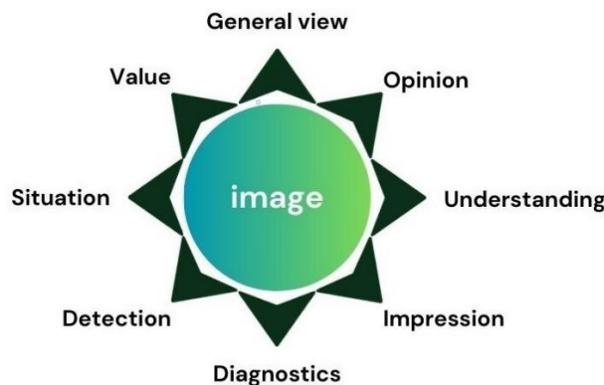


Image Types

In the studies conducted on the images of professions, it can be mentioned that there are various factors affecting their images since each profession has its own characteristics. However, when these factors are divided into certain

groups, they can be classified as the characteristics of professionals, social perception, characteristics of the profession, and media (Doğan, 2018). Polat and Arslan (2015) categorised image as in Table 1.

Table 1

Image Types and Classifications

According to the time of image perception	Present (current) image
	Desired (ideal) image
According to the perceiver	Internal image (self-perceived image of the organisation)
	External (mirror, foreign) image
According to the nature of the message that creates the image	Tangible image
	Abstract image
According to the quality of perceived image	Positive image
	Negative image
According to the levels of image perception	Personal image
	Group image
	Department image
	Organisational image
	Corporate image
	System image
According to the dominant factor in the formation of image perception	Product image
	Brand image
	Transfer image
	Umbrella image

When Table 1 is analysed, image perception is classified according to time, perceiver, the nature of the message that creates the image, the levels of image perception and the dominant factor in the formation of image perception. Bulduklu (2015) classified image types as personal image, corporate image, positive image, negative image, current image, brand image, product image, professional image, country image, perceived image, desired image, umbrella image and transfer image.

Image of Teaching Profession

The teaching profession is a profession that requires specialised knowledge and skills (Şişman, 2006) as well as more qualifications and competences beyond transferring and giving information (Çalışkan, 2005). Yavuz (2020) consider that if he cannot be a teacher of himself, he cannot be a teacher of anyone else. Teachers should not only look at their work as a profession, but should also accompany the learning journey in terms of their own development. In recent years, the skills that teachers should possess have been increasing. In addition to transferring knowledge in the traditional sense, teachers today have to fulfil many extra tasks such as using technology effectively, working as a team, and contributing to school management (Göker & Gündüz, 2017).

Professional image is the thoughts, knowledge and emotional reactions of professional employees and the society to which the profession provides service (Bağçeci et al., 2013). Based on this definition, we can define the image of the teaching profession as the thoughts, knowledge and emotional reactions about the teaching profession. The professional image of teachers consists of a combination of many characteristics that teachers leave on the public.

Factors affecting the image of teaching profession have been investigated by different researchers. Research on this subject and researchers are shown in the table below.

Table 2

Factors Affecting the Image of Teaching Profession According to Researchers

Researchers	Factors
Bağçeci, Çetin ve Ünsal (2013)	Contact General View Social Dimension
Ünsal (2015)	Status of the Profession Personal Image Attitude towards the Profession and Characteristics of the Profession School Image Teacher Qualification
Ölçüm ve Polat (2016)	Visual Image Professional Image Behavioural Image
Doğan ve Bayrak (2019)	Professional and Personal Characteristics Social Perception Occupational Attraction Status Media

Purpose of the Study

With the spread of social media, the visibility of the teaching profession in the media has increased. In addition, the widespread use of distance education due to the Covid-19 pandemic and the transfer of schools and lessons to homes have enabled parents to see the teacher and the education process more closely.

It is important to investigate how the image of the teaching profession is affected in this environment where the visibility of teachers has increased so much and schools have become more transparent. In this process, the positive or negative evaluations of parents and society may have affected the image of the teacher. This situation may affect the participation of parents in the learning process. In addition, the emerging new image may also affect the profile of candidates who will prefer the teaching profession.

In this study, it is aimed to explain how teachers' thoughts, observations and suggestions for solutions to the problems related to the image of the teaching profession are seen by those who do the profession and to give ideas to the Ministry of National Education and political actors etc. about the correction/improvement of the current situation.

Method

In this study, convergent parallel design approach, one of the mixed method designs, was used. In this design, quantitative and qualitative data are analysed separately and the results are summarised and interpreted separately. To what extent and in which ways the results of the two analyses are combined, separated and related to each other are discussed and interpreted. When making general interpretation, the results are combined (Creswell et al., 2020).

Participants

The research was conducted with teachers working in official public schools in Selçuklu, Meram and Karatay, which are the central districts of Konya province in the 2020-2021 academic year. The quantitative data of the research were obtained from 439 teachers by stratified random sampling method and qualitative data were obtained from 16 teachers by maximum diversity sampling method.

Participants of Quantitative Data

The distribution of the participants who constitute the quantitative data of the study according to demographic characteristics is shown in Table 3.

Table 3

Distribution of Participants According to Demographic Characteristics

Variable	Features	n	%
Gender	Woman	279	63,6
	Male	160	36,4
Education Status	Licence	376	85,6
	Master's Degree/PhD	63	14,4
Your age	20-30	40	9,1
	31-40	181	41,2
	41-50	170	38,7
	51 and above	48	10,9
Marital Status	Single	53	12,1
	Married	386	87,9
Type of School	Pre-School	60	13,7
	Primary School	197	44,9
	Middle School	91	20,7
	High School	91	20,7
Branch	Verbal	204	46,5
	Numerical	93	21,2
	General Aptitude	142	32,3
Seniority	1-5 years	25	5,7
	6-10 years	77	17,5
	11-15 years	105	23,9
	16 years and over	232	52,8

When Table 3 is analysed, it is seen that 279 (63,6%) of the teachers participating in the study were female and 160 (34,6%) were male. It is understood that 376 (85,6%) of the teachers participating in the study have bachelor's degree and 63 (14,6%) have master's degree or doctorate degree. As for the marital status variables of the teachers, 53 (12,1%) were single and 386 (87,9%) were married. According to the number of children variable, the number of teachers without children is 44 (10,0%), the number of teachers with one child is 76 (17,3%), the number of teachers with two children is 82 (18,7%) and the number of teachers with four children is 16 (3,6%).

Participants of Qualitative Data

The distribution of the participants who constitute the qualitative data of the study according to demographic characteristics is shown in Table 4.

Table 4

Demographic Variables of the Participants from whom Qualitative Data were Collected

Code	Gender	Education Status	Age	Marital Status	School Type	Branch	Seniority
P1	Female	Licence	41-50	Single	Pre-School	General Aptitude	16 years and above
P2	Female	Licence	20-30	Married	Pre-School	General Aptitude	6-10 years
P3	Female	Licence	31-40	Married	Pre-School	General Aptitude	11-15 years
P4	Female	Licence	41-50	Married	Pre-School	General Aptitude	16 years and above
P5	Female	Postgraduate	51 and above	Single	Primary School	General Aptitude	16 years and above
P6	Female	Licence	41-50	Married	Primary School	General Aptitude	16 years and above
P7	Female	Licence	31-40	Married	Primary School	General Aptitude	11-15 years
P8	Male	Licence	31-40	Single	Primary School	General Aptitude	11-15 years
P9	Male	Licence	31-40	Married	Middle School	Numerical	11-15 years
P10	Female	Licence	31-40	Married	Middle School	Numerical	11-15 years
P11	Female	Licence	31-40	Married	Middle School	General Aptitude	11-15 years
P12	Female	Licence	41-50	Single	Middle School	Verbal	16 years and above
P13	Male	Licence	51 and above	Married	High School	Numerical	16 years and above
P14	Female	Licence	31-40	Married	High School	Numerical	11-15 years
P15	Male	Licence	41-50	Married	High School	Verbal	6-10 years
P16	Male	Postgraduate	41-50	Single	High School	Verbal	16 years and above

As seen in Table 4, 16 participant teachers took part in the study. While determining these teachers, equal numbers of teachers from each level of education were taken into consideration. In accordance with maximum diversity sampling, it was taken into consideration that the participants' gender, age, marital status, branch and seniority characteristics were different. Participation in the study was voluntary.

Measurement Tools

The quantitative data of the study were collected using the Teaching Profession Image Scale developed by Doğan and Bayrak (2019), and the qualitative data were collected using a semi-structured interview form.

A data collection tool consisting of two (2) sections was used to collect the quantitative data of the study. The first part of the data collection tool includes personal information questions. These questions are included in the Personal Information Form, in which demographic characteristics of the teachers participating in the study such as gender, education level, age, marital status, type of school, branch and seniority are asked. In the second part, the "Teaching Profession Image Scale" developed by Doğan and Bayrak (2019) was used. The scale consists of 28 (twenty-eight) items and 5 (five) sub-dimensions.

In the study, 10 questions prepared to collect qualitative data were used. These questions were related to the sub-dimensions of the scale applied to collect the quantitative data of the research and it was paid attention that they were related to all of the sub-dimensions. While preparing the questions, the literature in the related field and expert opinions were taken into consideration.

Data Collection Tools and Techniques

In this mixed method research, quantitative and qualitative data were collected. In this context, a scale form was used for quantitative data and semi-structured interviews were conducted to collect qualitative data. The qualitative data of the study were obtained through semi-structured interviews. All of the semi-structured interviews with prepared questions were conducted face-to-face, with audio recording with prior information and in the teachers' own schools. Teachers were informed verbally and in writing before the interview; interviews were conducted with teachers who approved and signed the voluntary participation form.

Analysing the Data

In this study, convergent parallel design approach, one of the mixed method designs, was used. In this design, quantitative and qualitative data are analysed separately and the results are summarised and interpreted separately. To what extent and in which ways the results of the two analyses are combined, separated and related to each other are discussed and interpreted. When making general interpretation, the results are combined (Creswell & Plano Clark, 2020). In this context, the quantitative data and qualitative data of the research were analysed separately.

The qualitative data of the research were analysed by descriptive analysis method. The aim of descriptive analysis is to present the findings to the reader in an organised and interpreted form. The data obtained for this purpose are first described systematically and clearly. Then, these descriptions are explained and interpreted, cause-effect relationships are analysed and some conclusions are reached (Yıldırım & Şimşek, 2018).

Results

Results Related to Quantitative Data

The table below shows the findings related to the mean scores of the sub-dimensions of the answers given by the teachers to the Image of Teaching Profession scale.

Table 5

Distribution of Teaching Profession Image According to Sub-Dimensions

Sub Dimensions	N	Minimum	Maximum	\bar{x}	Ss
Professional and personal characteristics of teachers	439	1,00	5,00	3,77	,705
Social perception	439	1,00	5,00	1,84	,754
Occupational attraction	439	1,00	5,00	3,62	,949
Status	439	1,00	5,00	3,70	,787
Media	439	1,00	5,00	1,81	,773
Full scale	439	1,00	5,00	2,95	,459

Rating: 4,21 – 5,00 Very High; 3,41 – 4,20 High; 2,61 – 3,40 Middle; 1,81 – 2,60 Low; 1,00 – 1,80 Very low

When Table 5 is analysed, according to the gender variable, the mean scores of the teachers' responses to the professional and personal characteristics dimension of the scale are $\bar{x}=3,82$ for female teachers and $\bar{x}=3,70$ for male teachers. The mean scores of female teachers' responses to the social perception dimension of the scale were $\bar{x}=1,86$ and $\bar{x}=1,85$ for male teachers. The averages of the responses to the professional attraction sub-dimension of the scale are $\bar{x}=3,69$ for female teachers and $\bar{x}=3,51$ for male teachers. In the status sub-dimension, the averages were found to be $\bar{x}=3,71$ for female teachers and $\bar{x}=3,69$ for male teachers. In the media sub-dimension, the mean scores were $\bar{x}=1,86$ for female teachers and $\bar{x}=1,71$ for male teachers. In the whole scale, the mean scores of female teachers $\bar{x}=2,99$ and male teachers $\bar{x}=2,83$.

Results Related to Qualitative Data

Teachers' evaluations about the image of the teaching profession were divided into sub-themes as good, medium and poor level. Most of the teachers perceive the image of the teaching profession at a very low level or negatively. Despite the variables such as age, gender, educational status, school type, seniority, most of the teachers made negative evaluations about the image of the teaching profession. Some of the opinions of teachers who made negative evaluations are as follows:

I think the image of the teaching profession is in a bad place right now. We have no respect, individuals living in society have no respect for us. They do not attach importance to us, they do not see us as valuable and nowadays every parent is a teacher. Therefore, I do not believe that the teaching profession has an image. Both we finished it and society finished it (P2).

The teaching profession is actually one of the professions that should be respected and held in high esteem among all professions. Maybe it was like this in the past. But nowadays, there is not much reputation left for teaching. In terms of both parents' and students' view of teachers, it has become a thing now. If you can't be anything, at least be a teacher. I mean, I don't think it has a very good image today. The teacher's word has no validity. I think the image of the teaching profession is bad (P13).

Some of the teachers participating in the research evaluated that the image of the teaching profession was seriously affected especially during the pandemic period. The direction of the effect was negative.

It is not that we did not have an image problem with the pandemic. We have become a mass that sits, works from home, and earns money on top of that. I observe a situation like we have been targeted a little bit. But we know what kind of problems we have within ourselves. We know what we are dealing with, what kind of problems we are dealing with. But I think it looks different from the other side. I hope that these will be resolved in time. I can say that our general image is average. But I think it is also close to bad (P11).

If you had asked me until this year ago, my general judgements were more positive about the image of the teaching profession. But I don't think it has been very positive in the last year because of the pandemic. I don't think we are in a very good place in the eyes of the public (P5).

According to another finding of the study, there are many teachers who think that the image of the teaching profession has started to decline in recent years while it was in a much better position in the previous years. Teachers consider that the prestige and reputation of teaching has declined along with the professional image.

Humans are a being governed by perception. People's perception of the teaching profession is directly related to the education of both students and parents in this field. In this sense, as a teacher with 20 years of experience, I can say very clearly that the image of the teaching profession and the perspective on teaching have undergone a serious deterioration in the last 10 years. Since my field is counselling, I know very well the perspectives of students and parents at this point. In this sense, the teacher is seen as someone who only provides teaching and tries to provide it in a compressed and narrow area. I think it has become a concept, so to speak, whose hands are tied, trying to give it to a student community that does not want to receive it, to a parent community that does not want to receive it (P15).

I think it used to be more respectful in the past. I think this is decreasing day by day. I also noticed it after I was appointed myself. I mean, even in the form of address, if the age of the parent is older than us, there is a lot of sweet, sweet talk. I think the respect for teaching is gradually decreasing. If we make a categorisation, I think the image of the teaching profession is bad (P4).

According to the research findings, there is one teacher who argues that the image of the teaching profession varies from region to region and evaluates that it varies from person to person. Their evaluations are as follows:

It can vary from region to region and even from person to person. For example, I am a teacher in a school. While this situation may be misunderstood by some people, it may be appreciated by others. I think that this image perception is a concept that is shaped according to people's past life experiences and their lives (P8).

I've worked as a paid teacher. I've also worked in the private sector. I've been working in state institutions for ten years. Private is a completely different place. I don't even want to consider it as teaching, you work like a labourer in my opinion. But I was first assigned to Silopi in Şırnak. The perspective of the people there is good. Then I moved to Mardin. Teaching was better in the east (P10).

As another question in the research, teachers were asked what they could do to improve the image of the teaching profession. Half of the teachers who participated in the research stated that teachers should be self-developing. In addition, being an honest and researcher teacher was emphasised by the teachers who participated in the research as a characteristic that teachers should have.

They should be able to renew themselves from the beginning. They should be open to innovation, attend courses. In other words, a teacher who is fixed is unfortunately always doomed to regress. He/she should progress, this should be his/her primary goal. I am completing my 15th year in the profession. The knowledge of the first year and the current knowledge are very different. I cannot save the present with the knowledge of the first year (P5).

The teacher should be very curious and researcher. For example, distance education has started. We met with Web 2.0 tools. We didn't say, "I don't have to do it, I don't have to do it, I can just tell and pass." We all learnt new things in order to be able to teach these lessons with live lessons. For this reason, they should be curious and interested in applying different educational activities, implementing new cultural and artistic activities (P6).

Teachers were asked what the society could do to improve the image of the teaching profession. Teachers' evaluations were divided into the sub-themes of trusting, respectful, conscious and honest society. Examples of teachers' evaluations on this subject are as follows:

They should trust us. Parents and society should trust me. They should believe that I am really behind the student and that I am trying to make the student go forward for the benefit of the student. In other words, they should believe that everything is for them. The teacher should reflect this image to the other side (P2).

Society must first respect the teacher. They should respect our schools. They should respect the whole education community. Because respect comes before love (P8).

The most prominent statement in the teachers' evaluations of what the Ministry of National Education and political actors can do to improve the image of the teaching profession and bring it to a better place was the statement "the Ministry should take ownership of it". Apart from this statement, the suggestions that the Ministry should make advertisements and provide economic welfare came to the fore.

Our ministry needs to respect not only the views of parents but also the views of teachers. Unfortunately, a parent-orientated policy is currently being implemented. Our system is progressing according to the demands of parents and students. Road maps should be drawn according to teachers' thoughts and ideas (P9).

Teachers should not be complained too quickly, should not be touched too quickly, should not be criticised too quickly. I think the teacher should be seen as a competent person as a person who has graduated from a university, who has spent years in child development and student development, and should not be questioned so quickly. I mean, everything should not be ignored, but it should not be a profession that can be complained about even the smallest issues that can be complained about immediately and an investigation can be opened on every issue. When this happens, the teacher's hands are tied (P15).

Discussion, Conclusion and Suggestions

According to the quantitative data of the study, it was found that the image of teaching profession was at a medium level. Among the sub-dimensions of the teaching profession image scale in which quantitative data were collected, teachers' professional and personal characteristics, status and professional attraction sub-dimensions were measured at a high level, while social perception and media sub-dimensions were measured at a low level. According

to the qualitative data of the study, the majority of the teachers evaluated the image of the teaching profession as negative/bad. Again, the majority of the teachers stated that status, professional attraction, social perception and media evaluations were negative. When the data obtained are evaluated together, the responses of the teachers to the scale for social perception and media and the findings obtained from semi-structured interviews support each other. It is seen that there is differentiation in other sub-dimensions. The data of the study were collected during the Covid-19 pandemic (2020-2021) period. While the quantitative data were collected at the beginning of the pandemic, qualitative data were collected during the period when schools were closed and distance education activities were intensively carried out. The reason for this difference may be factors such as the exhaustion of teachers during the pandemic process, the fact that the studies carried out are not sufficiently known by the society and the change in social perception.

In [Doğan and Bayrak's \(2019\)](#) study, the general view of professional image was found to be at a moderate level. In the study conducted by [Cansız \(2019\)](#), teachers' general perceptions of professional image were found to be at a medium level. In [Sönmez and Cemaloğlu's \(2017\)](#) study, the general view of the teaching profession was found at a low level. While the findings obtained from this study overlap with the findings of [Doğan and Bayrak \(2019\)](#) and [Cansız \(2019\)](#), there is a difference between the findings of [Sönmez and Cemaloğlu \(2017\)](#).

A great majority of teachers view the image of the teaching profession negatively. It was observed that teachers who made negative evaluations made similar evaluations from each group regardless of demographic variables such as gender, educational status, marital status, school type, branch and seniority. [Özdemir and Orhan \(2019\)](#) concluded in their study that the majority of teachers had negative views about their professional image, while a small number of teachers had positive views. Since it reached similar findings, it overlaps with the findings of this study.

In the study, teachers stated that while the image of the teaching profession was in a better position in the past, it has regressed to a more negative situation today. They think that the reasons for this decline are the speeches and attitudes of senior managers, the media, teacher assignment problems, economic reasons, etc. [Özdemir and Orhan \(2019\)](#) found that the professional image of teachers is worse than in the past. The findings obtained from this study show overlap since they are similar.

Another result of the study is that professional and personal characteristics of teachers have an important role in determining the image of the profession. A good level of professional and personal characteristics of teachers is a sine qua non for a quality education. The best education can only be provided by the best teachers ([Özcan, 2011](#)). According to the opinions of the teachers participating in the study, the characteristics that teachers should have are self-developing, honest, researching, respectful, conforming to the values of the society, open to innovation, well-equipped, with high communication skills, a good observer, and a strong character. According to [Doğan \(2018\)](#), the professional and personal characteristics that teachers should have are the main factors that will increase the success levels of students. It is clear that increasing the professional and personal characteristics of teachers will contribute to education. For this reason, it is possible to say that providing teachers with trainings and opportunities to improve their professional and personal characteristics will improve the quality of education.

A great majority of the teachers participating in the research think that the social perception is negative. There are many teachers who think that the respect for teachers has decreased in the society. In Ünsal's (2015) study, 76% of the teachers who participated in the study think that the teaching profession has no respect. Again, teachers participating in Doğan's (2018) study concluded that the respect shown to teachers and the value given to the teaching profession by the society are not sufficient. In his study, Özpölat (2002) asked teachers the question "How much importance does the society they live in give to teachers?" and 49% of the teachers in the sample of his study answered "very much". In the same study, teachers concluded that the society gives more importance to teachers than parents. Erzen and Epçaçan (2018) determined that according to teachers, the prestige of the teaching profession is at a medium level. The findings obtained as a result of this study overlap with the studies of Ünsal (2015) and Doğan (2018), but not with the studies of Özpölat (2002) and Erzen and Epçaçan (2018).

In order for the image of the teaching profession to be at a better level, teachers suggested that teachers should improve themselves, exhibit positive behaviour, increase unity and solidarity, teachers should resemble each other in their behaviours and be role models. In Özdemir and Orhan's (2019) study, the expression of self-improvement-renewal came to the fore the most in what teachers who want to contribute to their professional image should do. Since the most prominent expression in this study is that teachers should improve themselves, it overlaps with the research finding of Özdemir and Orhan (2019).

According to the data obtained, teachers expect support from the Ministry of National Education and political actors. They have indicated how this support should be by using expressions such as the Ministry of National Education taking an attitude in favour of teachers, being protective and providing the necessary support. Another observation of the teachers is that the efforts, sacrifices and good works of teachers are not sufficiently explained to the society. They expect this from the Ministry of National Education and political actors.

Ethic

According to the decision of Necmettin Erbakan University Scientific Research Ethics Committee dated 19/02/2021 and numbered 2021-068, this study received ethical approval.

Author Contributions

This research article is produced from Raşit ERARSLAN's master's thesis. The second author is the thesis advisor.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Analysis of Parents' Metaphors Regarding the Concepts of Mother, Father, Child and Individual in Terms of Parental Involvement

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Abstract

The present study explores parents' mental images and understandings of the concepts of "child," "individual," "mother," and "father" through metaphor analysis. The primary objective of this study is to uncover parents' implicit attitudes about these concepts in order to contribute to parental involvement initiatives undertaken by school leaders. The research was conducted with 174 parents. The metaphors were evaluated using content analysis method. A total of 468 codes were evaluated based on 10 themes, and the findings were interpreted in terms of parental involvement. The study presents several significant findings. Parents generated fewer metaphors for the concept of "individual" compared to "child," possibly influenced by collectivist tendencies. Both autonomy-enhancing and controlling parenting tendencies were revealed about parents' attitudes. Metaphors that reflect controlling tendencies downplay individuals' unique traits, reflecting the emphasis on community needs in collectivist societies. Metaphors related to motherhood emphasize nurturance and sacredness, while those related to fatherhood highlight protection and guidance, aligning with cultural gender roles. There is less emphasis on the loving aspect of parenting. Overall, these findings can be utilized by educational leaders and researchers working in similar domains, providing valuable insights into parental perspectives and contributing to the enhancement of parental involvement practices.

Key Words

Parental involvement • School leadership • Principal • Metaphor analysis

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The most significant factor enabling the cognitive, emotional, or social development of children is the family culture within which the child grows, the second largest factor being the environment. In this context, according to Bronfenbrenner's ecological system theory, the school culture is an important ecological system that influences the child (Ryan, 2001). Children are obliged to navigate between two worlds with different cultures (Walker & Hoover-Dempsey, 2013). Children who struggle with transitions between these two worlds and fail to regulate their behavior experience issues with discipline and academic achievement (Gregory et al., 2010). For instance, when the language, culture, or knowledge content of these two worlds do not align, children may have academic and behavioral problems and can lose learning opportunities. Therefore, the participation of the family in the child's educational process will facilitate the child's management of these two different worlds, enhancing academic, social, and emotional adjustment (Walker & Hoover-Dempsey, 2013). Furthermore, as family participation increases, the teacher tends to pay more attention to the child of the participating family (Epstein, 1983), and in this case, the child is supported by both the teacher and the family. Therefore, "parental involvement" needs to be supported and enabled by educational leaders and teachers for student improvement.

Parental involvement is a multidimensional concept (Grolnick & Pomerantz, 2022). In the pioneering study by Epstein (1992), six different types of parental involvement were proposed: parenting, communication, volunteering, learning at home, decision making, and community connections. This framework has been widely referenced in later research. However, the definition most commonly used in research is the one proposed by Grolnick and Slowiaczek (1994): the family's dedication of resources to the child's academic life in terms of time, money, and energy. In a comprehensive meta-analysis study, Barger et al. (2019) defined parental involvement in four different categories: (1) discussion and encouragement, (2) cognitive-intellectual involvement, (3) homework involvement, and (4) home undifferentiated. Parental involvement could be both home-focused and school-focused.

Parental involvement has a positive impact on all stakeholders in education, especially students. There is a positive relationship between parental involvement and children's academic success, school adjustment, and motivation (Fan & Chen, 2001). In a meta-analysis conducted by Jeynes (2005), a high correlation was found between parental involvement and academic achievement. Recent research has confirmed this finding. For instance, according to a longitudinal study by Wang and Sheikh-Khalil (2014), as parental involvement increases, student success, graduation, and the rate of college attendance increase. Again, in a meta-analysis conducted by Castro et al. (2015), a similar result was found: as parental involvement increases, academic achievement increases. Parental involvement not only affects success, but also emotional and social development. High levels of parental involvement reduce children's behavioral and emotional problems (Flouri et al., 2015).

Parental involvement provides many positive contributions to children, but what matters is not the quantity but the type of quality of parental support. For example, homework support does not always increase academic achievement. When the family supports the child's autonomy in helping with homework, parental involvement contributes positively (Dumont et al., 2014; Moroni Dumont et al., 2015). However, when the family provides homework support in a controlling style, the family's contribution negatively affects the child (Patall et al., 2008). Therefore, parental involvement should be evaluated from two perspectives as proposed by Self-Determination

Theory: autonomy-supportive or controlling style (Deci & Ryan, 2012). Supporting autonomy is defined as supporting the child's initiative-taking and decision-making capacity (Ryan et al., 2006). A controlling style is defined as the family's interference with the child's psychological world (Ryan, 1982).

There is a high correlation between autonomy-supportive family attitudes and parental involvement (Grolnick & Ryan, 1989). According to Grolnick and Slowiaczek (1994), families that support autonomy value their children's individuality and independence, and understand their children's academic needs and communicate more with their teachers accordingly. According to research by Pomerantz et al., (2007), parents who support autonomy are both more involved in their children's activities and communicate more with school staff. Mothers who support their children's autonomy are more interested in their education (Joussemet, Landry, & Koestner, 2008). On the other hand, controlling families show less involvement in their children's education because they value the child's compliance with their own wishes and obedience more than the child's development (Grolnick et al., 1997). When parents support autonomy, parental involvement contributes positively to the child's success because the child's self-regulation skills are improved. Therefore, one of the important goals of school leaders should be to increase parental involvement (Epstein, 1987). For this, they should first examine the parenting attitude of parents. Whether parents have an autonomy-supporting or controlling style should be explored by school leaders and parental involvement interventions should be designed accordingly. They can do this with a direct measurement method, but people do not have direct access to their attitudes (Lakoff & Johnson, 1980). Therefore, metaphor analysis is a valid method to explore the implicit attitudes of parents. The aim of this study is to explore the attitudes of parents through metaphor analysis, which is the first step to support parental involvement.

The word metaphor (mental image/figure of speech) is defined by the Turkish Language Institution as "using a word or concept in a new way that is different than its accepted meaning" (TDK, 2015). The root of the word metaphor is based on the Greek word "Metapherein". Meta means "change" and pherein means "bearing" (Levine, 2005). Therefore, metaphors provide changes in thought patterns by transforming known concepts into new understandings. Recently, more studies use the metaphor analysis in education and social sciences.

Metaphors are powerful tools through which people make sense of complex ideas and abstract concepts (Lakoff & Johnson, 1980). Through metaphors, researchers make concepts more understandable (Ritchey, 2018). Metaphors are also an effective tool in the concretization of complex concepts, the production and transfer of new information (Schoemaker et al., 2020; Landau et al., 2018). Metaphors are also used to express difficult emotions (Ortony & Fainsilber, 1987). In addition, they are used to convey sub-meanings in communication (Thibodeau et al., 2019). In education, metaphors are frequently used to describe people's perceptions (Hacıfazlıoğlu, Karadeniz, & Dalgıç, 2011).

In Turkey in the field of education, the concepts of "technology leadership" (Karadeniz et al., 2011), "teacher" (Aslan, 2013), (Pektaş & Kıldan, 2009), "student" (Saban, 2009), "school" (Saban, 2008a), "school manager" (Zembat, Tunceli, & Akşin, 2015), (Şahin & Tüzel, 2014); "knowledge" (Saban, 2008b), "internet" (Saban, 2010), "education" (Altun & Apaydın, 2013), "parent" (Çakmak et al., 2014), "distance education" (Demirbilek, 2021; Karacaoğlu & Karakuş, 2021), "Covid-19" (Arı & Arslan, 2020), "sport club" (Kurtipek, 2019), and "corona-virus"

(Aksu & Saatçi, 2020) have been analyzed using a metaphor analysis approach. Although there are many studies focusing on the concepts of "teacher, student, principal, parent, education, and school", no study has been found that aims to explore parents' metaphors including the concepts of "child, mother, father, and individual" together, except for the studies conducted by Kıldan et al. (2013), Kuyucu et al. (2013), Pesen (2015) and Demirbaş (2015). In addition, only one study (Pesen, 2015) has been found that reveals the perceptions of parents related to the concept of the "child". However, discovering the thoughts of parents regarding the concepts of "child, individual, mother, father" through a metaphor analysis method can give important insights about the attitudes they have towards children. In the present research, parents' metaphors in relation to the concepts of "child, individual, mother, father" are explored. The findings can be utilized by educational leaders and researchers providing valuable insights into parental perspectives and contributing to the enhancement of parental involvement practices.

Method

Research Model

The present research aims to explore the mental perceptions and understandings of primary school parents related to the concepts of "mother", "father", "child", and "individual" through metaphor analysis. "Phenomenology," one of the qualitative research designs, has been utilized. The phenomenological design aims to understand the objective and subjective thought patterns of individuals (Creswell, 2013) as well as the phenomena that are known by individuals, but not deeply and comprehensively understood (Yıldırım & Şimşek, 2016). Although people generally have knowledge about the concepts of "mother", "father", "child", and "individual", this method has been chosen because it allows for the discovery of parents' implicit thought patterns. In this context, our research questions are as follows:

- a) What are the metaphors that primary school parents have regarding the concept of "mother"?
- b) What are the metaphors that primary school parents have regarding the concept of "father"?
- c) What are the metaphors that primary school parents have regarding the concept of "child"?
- d) What are the metaphors that primary school parents have regarding the concept of "individual"?
- e) Under which conceptual categories can the identified metaphors be grouped in terms of common characteristics?

Study Group

The present research was conducted with 192 parents who voluntarily participated in a study at a public primary school in the city center of Yalova during the 2022-2023 academic year. Of these parents, 97 (50.5%) were women and 95 (49.4%) were men. However, after eliminating 18 forms that were not suitable for a metaphorical analysis or were incomplete, data analysis was performed on 174 participants. A convenience sampling method has been chosen. This sampling method brings speed and practicality to the research (Bryman, 2016) because in this method, the researcher selects a situation that is close and easily accessible (Etikan et al., 2016; Yıldırım & Şimşek, 2016). Demographic variables of the participating parents are shown in Table 1.

Table 1

Frequency and Percentage Distribution by Parents' Demographic Variables

Demographic Variables	Qualifications	Frequency (f)	Percentage (%)
Gender	Female	88	50.57
	Male	86	49.43
Age	25-29	9	5.17
	30-34	33	18.96
	35-39	53	30.45
	40-44	51	29.31
	45-49	19	10.91
	50-above	9	5.17
Education Status	Literate	1	0.57
	Primary School	19	10.91
	Secondary School	27	15.51
	High School	59	33.90
	Undergraduate	39	22.41
	Two-Year College	22	12.64
	Master	6	3.44
PhD	1	0.57	
Total		174	100

Measurement Tools

In the present research, the metaphor analysis method was employed to explore parents' perceptions. Previous studies on this method (Karadeniz et al., 2011; Aslan, 2013; Pektaş & Kıldan, 2009; Saban, 2009; Saban, 2008a; Zembat et al., Akşin, 2015; Şahin & Tüzel, 2014; Saban, 2008b; Saban, 2010; Altun & Apaydın, 2013; Çakmak et al., 2014) were examined. A question form was prepared, similar to the tools used in these studies, which included sentences such as ".....is like, because....." to explore metaphors related to "mother", "father", "child", and "individual" concepts. Before the application of the question form, a pilot study was carried out with a group of three parents not participating in the study to test the comprehensibility of the questions. As per research ethics, participants and the school administration were in-formed before the study and consent forms were prepared and were signed by the participants. To reveal the mental images that the participating parents have related to these concepts, data were collected from each of them with the following question pattern. Participants were asked to complete the sentences "A child/an individual/a mother/a father is like..... because....." within a given time of 20 minutes. For this purpose, parents were given a blank sheet of paper with these phrases, and they were asked to express their thoughts by using these phrases and focusing only on a single mental image (or metaphor). The forms filled out in the parents' handwriting served as the primary data source.

Data Analysis

A content analysis technique was employed to analyze the data (Schreier, 2012). The main goal of content analysis was to systematically analyze and interpret the data to uncover general themes among the metaphors in a

way that is comprehensible to the reader (Yıldırım & Şimşek, 2016; Krippendorff, 2018). Data analysis was carried out in four stages.

Screening and coding: Forms that lacked metaphors, were incomplete, or contained meaning-less sentences were excluded from the research. As a result of all these situations, 18 forms were excluded from the data analysis. After the elimination of 18 forms, the study continued with 174 research forms. Each form was assigned a number (K1, K2,K174). The metaphors provided by each participant were independently coded by two researchers. Through discussion, a consensus was reached on the coding. A sample category list was prepared based on the agreed categories, and the coding was performed for the second time.

Category development: At this stage, metaphors produced by 174 parents were examined in terms of their common features. Again, metaphors were categorized independently by two re-searchers, based on their shared features. Through discussion, an agreement was reached on the categories. Based on the agreed categories, a sample category list was prepared and coding was carried for the second time. A total of 2 conceptual categories were derived for the child and individual concepts, and 8 conceptual categories were identified for the mother and father concepts.

Validity and reliability: In this study, the validity was established by providing a comprehensive description of the data collection and analysis processes. The originality of the research was maintained, and direct quotes were utilized without disclosing the participants' identities (Yıldırım & Şimşek, 2016; Merriam, 2009). Reliability was ensured through a consistency check (Lincoln & Guba, 1985). The metaphors were presented to the participants, and their confirmation of the findings was obtained through face-to-face interviews with two participants (Yıldırım & Şimşek, 2016; Creswell & Miller, 2000).

Interpretation based on the generated metaphors: Based on the general findings of the research, 88 valid metaphors related to the concept of "mother" were generated by mothers; 86 valid metaphors related to the concept of "father" were generated by fathers; parents generated 165 valid metaphors related to the concept of "child" and 129 valid metaphors related to the concept of "individual".

In summary, the research design focused on ensuring both the validity and reliability of the study. The use of content analysis facilitated a comprehensive understanding of the metaphorical representations of parents regarding the concepts of "mother," "father," "child," and "individual." The coding, screening, and categorization of metaphors enabled a systematic analysis of the data, while the steps taken throughout the research process ensured the quality and trustworthiness of the study. The coding and interpretation of these metaphors are discussed in detail below.

Findings

This section presents the findings and analysis of the metaphors used by parents in relation to the concepts of "child, individual, mother, father." The findings are presented in tables and interpreted based on the research questions.

Metaphors in relation the concepts of "child" and "individual"

A total of 165 metaphors were produced for "child" and 129 for the concept of "individual". The metaphors were analyzed in terms of autonomy-enhancing and controlling parental style. The metaphors produced for the concepts of "child" and "individual" are presented in Table 2.

Table 2

Metaphors in Relation the Concepts of "Child" and "Individual"

Category	Metaphors for child	Metaphors for individual
Autonomy-Enhancing	Future (10), Blessing (2), Trust (2), Symbol of immortality (1), Reason for existence (4), Hope (1), Foundation (1), Rising sun (1), Source of happiness (6), Source of life (4), Joy of the home (3), Love (1), Joy (1), Meaning of life (1), Canary (1), Sweetness (2), Smiling face (1), My sunshine (1), Bundle of love (1), Birdsong (1), Treasure (3), Gem (2), Wealth (1), Diamond (1), Gift (4), Diamond (3), Heaven (1), Most beautiful story of life (1), Apple of the eye (1), Life (1), Rosebud (1), Everything to me (2), Angel (1), Water (2), Soul (3), Fragrant flower (1), Breath (7), Flower (14), Flower seed (1), Earth (5), Tree seed (1), Fruit (2), Sapling (5), Sprout from the earth (2), Bird (1), Kitten (1), Rose (1), Seed (5), Baby bird (1), Light (1), Sky (1), Star (2), Educational (1), World (1), Rainbow (1), Colorful flower (1), Compass (1), Dream (2), Flowing river (1)	Tree (6), Picture of the future (1), Future of the country (1), Sapling (3), Oxygen (1), Sun (1), Light (1), Family (4), Community (3), Plane tree (5), Infinity (1), Film (1), Guide (1), Leader (1), Snowflake (1), Mountain (1), Gold (2), Forest (1), Freely flying bird (10), Water (1), Plane tree (1), Kite (1), Plant (1), Song (1), Each tree in the forest (1), Fingerprint (5), Colors (1), Spice (2), Star (4), Novel (1), Rainbow (2), Island (1), Book (1), Earth (1), Nature (1), Poem (1), Solid ground (1), Strong foundation (3), Seed (2), Field (1), Yeast (2), Building foundation (2), Friend (1), Mineral (3), Spiritual gain (3), Treasure box (1), Diamond (3), Flower (3), Air (1), Medicine (1), My everything (1), Reason for existence (1), Miracle (1), Sacred being (1), Wealth (1), Heart (1)
Controlling	Dough (9), Cake batter (1), Raw material (1), Water (5), Unprocessed log (1), Beach (1), Mirror of the future (1), Mirror (4), Blank notebook (2), Camera (1), Work of art (3), Computer (1), Road (1), Unreachable star (1), Overcoming challenges (1), Spiral (1),	Building block (5), Ant (1), Wall (1), Cell (6), Pavement stone (1), Link of a chain (4), Atom (3), Molecule (1), Chameleon (1), Puzzle (1), Note (1)

The number of metaphors generated for the concept of "child" and "individual" are presented in Table 3.

Table 3

The Number of Metaphors Generated for the Concept of "Child" and "Individual"

Category	Child	Individual	Total
Autonomy-Enhancing	131	104	235
Controlling	34	25	59
Total	165	129	294

As can be seen from Table 3, far fewer metaphors have been produced for the concept of "child" vs "individual" (f165 vs f129 / 56% vs 44%). Of the 129 metaphors produced related to the concept of "individual", 104 (81%) are autonomy-enhancing; 25 (19%) are controlling. When examining autonomy-enhancing metaphors, they are generally based on the idea of originality, beauty, and valuable entities. For example, expressions such as "a bird flying freely"

(10), "rain-bow" (2), and "star" (4) emphasize that individuals are free, unique, and valuable. Metaphors such as "tree" (6), "sapling" (3), and "sycamore" (5) indicate that individuals are natural and strong entities, open to development and growth. Concepts such as "fingerprint" (5), "puzzle" (1), and "novel" (1) highlight the uniqueness of individuals and their distinctive stories. These kinds of metaphors contain positive associations that suggest that individuals represent important and valuable aspects of life.

When examining controlling metaphors related to the individual, it is emphasized that individuals should be more passive and dependent. Particularly metaphors such as "organ", "note", or "air particles" highlight that individuals derive their value not in isolation but as integral components of a larger society. This perspective is a highly controlling one and seems to fit the collectivist cultural viewpoint. Additionally, metaphors like "chameleon" and "puzzle" highlight the need for the individual to hide their inner world and identity. In short, these metaphors can be interpreted as controlling and undervalue the individuality, and the uniqueness of individuals.

Of the 165 metaphors produced related to the concept of "child", 131 (79%) are autonomy-enhancing; 34 (21%) are controlling. When examining autonomy-enhancing metaphors related to the concept of "child", concepts such as happiness, love, gift, and life energy often come to the fore. For example, expressions such as "future" (10), "blessing" (2), and "hope" (1) emphasize that children are representatives of our future. Expressions such as "source of happiness" (6), "source of life" (4), and "joy of the house" (3) show the joy and happiness children bring to families and communities. Concepts such as "treasure" (3), "gem" (2), and "diamond" (3) indicate that children are valuable entities. These types of metaphors contain autonomy-enhancing associations that suggest that children represent important and valuable aspects of life.

When examining metaphors that imply a controlling parenting style related to children, on the other hand, the common theme shows that individuals are perceived not independently, but as part of a larger structure. For instance, metaphors such as "cell", "atom", "building block" express a part of a whole. Children derive their value not in isolation but as integral components of a larger society. Secondly, these controlling metaphors show that individuals are not free on their own, but are tied to a larger structure. For example, "pavement stone", "link in a chain", or "wall" metaphors exemplify this understanding. Thirdly, these controlling metaphors imply that children need to be shaped and formed. Metaphors like "dough", "raw material", or "unprocessed log" can illustrate this understanding. These metaphors represent an understanding that dismisses children's own experiences and requires life experience and downplay the importance of personal agency. Fourthly, some controlling metaphors indicate the difficulty of parenting and regards child raising as challenging. For instance, "road", "achieving the difficult", and "spiral" metaphors can exemplify this understanding. Lastly, some controlling metaphors express children as individuals who are obligated to meet the expectations of their families. For example, "mirror of the future", "blank notebook", or "camera" metaphors can be shown as examples of this understanding.

Metaphors in relation the concepts of "mother" and "father"

When the metaphors are examined in detail, 8 different categories emerge. 88 valid metaphors related to the concept of "mother" by mothers and 86 related to the concept of "father" by fathers have been generated (see Table 4). These metaphors are discussed in general and in more detail below.

Tablo 4

Metaphors in Relation the Concepts of "Mother" and "Father"

Categories	Mother	Father	Total
Trust and Security	11	36	47
Guidance and Education	14	20	34
Nature and Life	27	6	33
Sacredness	20	1	21
Protection	4	13	17
Source of Love	7	5	12
Friendship and Luck	1	5	6
Work-Related	4	0	4
Total	88	86	174

Trust and Security: Metaphors in this category are associated with trust and security. This category has generated the highest number of metaphors (f47). Also more interestingly, a greater number of metaphors are associated with fatherhood (f36) compared to motherhood (f11). This indicates that from a paternal perspective, fathers are perceived as a stronger source of trust and security for their children. "The father is like a plane tree. Even if it doesn't have fruit, its shade is never lacking."(K137) "The father is like a mountain. Because he overcomes all difficulties and always stands like a mountain behind his family without collapsing."(K50) "The mother is like a mountain. Because she carries sorrows, happiness, responsibilities everything like a mountain."(K85). For the child, the father is seen as a safe haven to seek refuge in.

Table 5

Metaphors Related to "Mother" and "Father" in the Category "Security and Trust"

No	Metaphors for Mother	f	No	Metaphors for Father	f
1.	Motherland	3	1.	A mountain	13
2.	A source of warmth	2	2.	An oak tree	11
3.	A framework	1	3.	A port (of refuge)	3
4.	A tortoise	1	4.	A great mountain	3
5.	A safe harbor	1	5.	My own shadow	1
6.	A sycamore	1	6.	An ancient oak	1
7.	A pair of scales	1	7.	A rock	1
8.	A light in the darkness	1	8.	A pillar of the household	1
			9.	A foundation	1
			10.	A pine tree	1
Total		11			36

Guidance and Education: In this category, it is the second category where the most metaphors related to both motherhood (f14) and fatherhood (f20) have been generated. For example, metaphors such as "teacher", "compass", and "north star" show that parents are responsible for instilling values, imparting knowledge, and providing guidance

to their children, enabling them to grow as responsible and skilled individuals. "The mother is like light because she constantly illuminates our path in life, even in the darkest times."(K151) "The father is like a guidance. Because in the school of life our father guides us with his advice and experiences."(K169). In this category, it is seen that fathers are perceived more as teachers and guides relative to mothers. The high number of metaphors in the trust and guidance/education categories suggests that participants mostly see the main aim of parenthood as preparing child for the future through guidance and teaching.

Table 6

Metaphors Related to "Mother" and "Father" in the Category "Guidance and Education"

No	Metaphors for Mother	f	No	Metaphors for Father	f
1.	An educator	3	1.	A commander	3
2.	A source of light	3	2.	A role model	2
3.	A teacher	2	3.	A compass	2
4.	A compass	1	4.	A leader	2
5.	A fortune teller	1	5.	A guidance counselor	1
6.	The North Star	1	6.	A teacher	1
7.	An unquenchable light	1	7.	A car (alt. a vehicle)	1
8.	A light in the darkness	1	8.	Train tracks	1
9.	A beacon	1	9.	The North Star	1
			10.	A path	1
			11.	The Day	1
			12.	A classroom	1
			13.	A light	1
			14.	A clock	1
			15.	A friend to follow in the example of	1
Total		14			20

Nature and Life: 27 metaphors related to motherhood and only 6 related to fatherhood have been produced in this category. It is seen that motherhood (f27) is important in terms of fertility, giving life, and sustaining life. For example, metaphors such as "breath", "oxygen", and "source" convey that mothers are the essence of life for their children. In this context, the nourishing aspect of motherhood, which is fundamental to the child's growth and development, has been emphasized. "The mother is like the ocean because she harbors all the beauties like the ocean and presents it to her surroundings with love."(K146) "The mother is like the sky because I get the air, the light I need from her."(K114) Fatherhood (f6), on the other hand, has been emphasized much less in terms of its nourishing aspect. Fatherhood is less frequently depicted as a source of nurturing like nature.

Table 7

Metaphors Related to "Mother" and "Father" in the Category "Nature and Life"

No	Metaphors for Mother	f	No	Metaphors for Father	f
1.	The sun	3	1.	A tree	2
2.	My whole world	3	2.	A branch of a tree	2
3.	Water	3	3.	Soil (alt. Land, Earth)	1
4.	Soil (alt. Land, Earth)	2	4.	The sea	1
5.	A tree	2			
6.	A bird	2			
7.	A breath	2			
8.	Life	2			
9.	An ocean	1			
10.	The sky	1			
11.	Air	1			
12.	A wellspring	1			
13.	The nature	1			
14.	Oxygen	1			
15.	A boundless sea	1			
16.	The winds	1			
Total		27			6

Sacredness: This category highlights the spiritual and sacred aspects of motherhood (f20). Metaphors such as "angel", "heaven", and "sacred entity" show that mothers are seen as pure, selfless figures. This emphasizes the respect and reverence given to mothers and acknowledges their role in raising children and making sacrifices. Examples of parents in this category include: "Mother is like an angel because she holds me under her wings all my life and even if she is not around, I feel her presence like an angel." (K172) Fatherhood (f1), on the other hand, hardly seems important in terms of sacredness. This finding is consistent with our cultural structure that exalts and sanctifies motherhood.

Table 8

Metaphors Related to "Mother" and "Father" in the Category "Sacredness"

No	Metaphors for Mother	f	No	Metaphors for Father	f
1.	An angel	6	1.	A shrine	1
2.	Heaven	5			
3.	A divine being	3			
4.	The heart	2			
5.	The gates of heaven	1			
6.	A rose	1			
7.	A character from folklore	1			
8.	A miraculous being	1			
Total		20			1

Protection: Participants see fathers (f13) as more of a protective shield than mothers (f4). For instance, fathers are seen as an element that protects the house and the child. "Father is like armor. Because just like the armor

protects us in the battlefield, our father protects us from evils by shielding us in the hardest moments of our lives." (K141) "Father is like the state. Because he has the authority in all matters, he keeps the family together like a state, meets their material and spiritual needs." (K25). Motherhood is less frequently depicted as a source of protection.

Table 9

Metaphors Related to "Mother" and "Father" in the Category "Protection"

No	Metaphors for Mother	f	No	Metaphors for Father	f
1.	A protective wing	1	1.	The roof of our house	3
2.	A soldier	1	2.	The government	2
3.	A mountain	1	3.	A suit of armor	2
4.	An earthquake-resistant building	1	4.	A caravan	1
			5.	A fortress	1
			6.	A superhero	1
			7.	A framework	1
			8.	A soldier	1
			9.	Made of steel	1
Total		4			13

Source of Love: In this category, fewer metaphors have been produced compared to other categories (7 related to motherhood, 5 related to fatherhood). The concepts of motherhood and fatherhood have been less frequently explored in terms of love. "Mother is like a ball of love. Because she gives her unconditional love without holding back when you need it, whether it's a good day or a bad day." (K134) "Father is like a fairy tale hero. Because he has the most important role in the family, he is flawless and his power is enough for everything." (K117). This indicates that the aspects of love and affection of parents are emphasized less than their other roles.

Table 10

Metaphors Related to "Mother" and "Father" in the Category "Love Source"

No	Metaphors for Mother	f	No	Metaphors for Father	f
1.	A bundle of love	4	1.	A character from folklore	3
2.	A source of joy	2	2.	My everything	1
3.	A warm home	1	3.	The lead actor	1
Total		7			5

Friendship and Luck: Much fewer metaphors have been produced in these categories. In this context, only 1 metaphor has been produced in the mother category and 5 in the father category. Fathers' presence is seen by some parents as a treasure in terms of luck. This indicates that fathers are seen as a factor providing luck and good opportunities in their children's lives. Motherhood has been mentioned only once.

Table 11

Metaphors Related to "Mother" and "Father" in the Category "Friendship and Fortune"

No	Metaphors for Mother	f	No	Metaphors for Father	f
1.	Friend	1	1.	Friend	2
			2.	Close friend	2
			3.	Treasure	1
Total		1			5

Work Oriented: This category emphasizes the effort and dedication mothers show to raise their children. In this category, more metaphors have been produced related to motherhood (f4) than fatherhood (f0). Metaphors such as "worker", "oven", and "construction engineer" depict mothers as individuals who tirelessly work to create a house environment for their children. This category also emphasizes the various roles mothers have in their children's lives, focusing on caregiving. No metaphor related to fatherhood has been produced in this context.

Table 12

Metaphors Related to "Mother" and "Father" in the Category "Work-Related"

No	Metaphors for Mother	f	No	Metaphors for Father	f
1.	Worker	1			
2.	Oven	1			
3.	Civil Engineer	1			
4.	Kitchen	1			
Total		4			

When the metaphors are analyzed, the most salient ones pertain to trust/security and guidance/education. Mother and father are often perceived as pillar of trust/security and educators of their children in our culture. Many parents perceive parenthood as caregivers who provides care to their child, protects them, and teaches them about life by imparting information. On the other hand, unfortunately, it is notable that friendship, companionship, and love have been far less emphasized as roles of mothers and fathers. This interpretation implies that parents often struggle to establish an equal loving relationship with their children, but instead choose an authoritative relationship.

When the metaphors are analyzed separately in terms of "mother" and "father", the most commonly produced metaphors for "mother" are angel (f6), heaven (f5), ball of love (f4), instructor (f3), my world (f3), sun (f3), light (f3), water (f3), sacred being (f3), homeland (f3). The most frequently produced metaphors for the concept of "father" are mountain (f13), plane tree (f11), commander (f3), port (f3), towering mountain (f3), the roof of the house (f3), fairy tale hero (f3). It is apparent that motherhood is emphasized more in categories such as sacredness, nature, and life, work orientation; while fatherhood carries more weight in categories like guidance, education, protection, and trust. The mother is perceived as a sacred being that nurtures the child and gives life; the father is represented as a being that provides security, protection, and trust. In the work orientation category, there is only one metaphor related to the father. The mother is seen more as working at home, and it can be interpreted that the father does not participate in housework. Additionally, the father is seen more as a treasure or chance than the mother.

Discussion

In this study, the mental images and understandings of elementary school parents regarding the concepts of "child", "individual", "mother", and "father" have been explored through metaphors. The main aim of the research was to contribute to parent involvement activities that school leaders could implement by discovering the implicit attitudes of the parents. The findings of the research were analyzed particularly in terms of two important concepts of self-determination theory, "autonomy-supportive" and "controlling" parental attitudes (Ryan & Deci, 2020). The research presents significant findings in many respects.

Firstly, parents have produced far fewer metaphors about the concept of "individual" compared to the concept of "child". One possible explanation is that the concept of "child" is more tangible and concrete, while the concept of "individual" is more abstract. However, research indicates that mental frameworks that are not closely tied to daily experiences and lifestyle are less accessible to individuals (Lakoff & Johnson, 1980). When a thought pattern does not align with one's cultural schema, it becomes more challenging for individuals to comprehend and articulate it (Shore, 1998). Furthermore, individualism and collectivism have a significant impact on individuals' behaviors, thoughts, and emotions (Vignoles *et al.*, 2016). In collectivist societies, the needs of the community are often prioritized over individual needs (Kagitcibasi, 2005; Markus & Kitayama, 1991). In collective societies, individuals are valued not as their own identity, but as part of a group (Geert *et al.*, 2020). The concept of "individual" may fit more with the cultural schemas and thought systems of individualistic cultures rather than collectivist culture, which is why participants may have produced fewer metaphors related to the concept of individual.

Although more empowering metaphors were produced related to the "individual", metaphors indicative of controlling styles emphasized people's unique characters and personal traits to a lesser degree. Metaphors like "organ", "note", or "air particles" highlight that individuals derive their value not as an individual, but as part of a whole. In collective societies, the perspective that prioritizes the needs of the society has led to fewer metaphors being produced about the concept of "individual". This finding reflects the systematic thinking of our cultural structure (Kagitcibasi, 2005).

The analysis of metaphors related to the concept of child has shown that metaphors consistent with our collective societal structure have been produced. The concept of "child" is closely related to family and society, which are important for collective societies (Hofstede, 2020). Metaphors emphasizing the child's social role and responsibilities for the family, like "future", "gift", and "hope", are consistent with our collective cultural thinking. Children are mainly raised to conform to authority and social norms. When controlling metaphors related to the concept of "child" were examined, the common theme showed that individuals are perceived not independently, but as part of a larger structure or attached to other structures (Triandis, 1995). This parental attitude turns into more of a controlling parenting behavior.

The most important finding related to mother and father metaphors is that metaphors expressing the source of love for the concepts of mother and father have been used very little. When parents do not see themselves as a source of love, it may mean they struggle to give love to their children. Parenting is not just about providing care, but also about meeting the emotional needs of the child by giving love (Fay & Cline, 2020). Research shows that families

who give conditional love to their children exhibit more controlling parental behavior (Assor, & Tal, 2012; Assor, Roth, & Deci, 2004). Such attitudes lead to both internalizing and externalizing problems in children (Barber et al., 2005; Pinquart, 2017). Children who receive unconditional love tend to have higher self-esteem and motivation (Soenens & Vansteenkiste, 2010). Parenting means not only providing care but also meeting the child's emotional needs by giving love (Ainsworth, 1989). Similarly, friendship and companionship metaphors related to mother and father were very few, and there were no metaphors related to play. Giving love is closely associated with supporting autonomy in parenting attitudes. It is evident that the metaphors used by parents tend to reinforce a more controlling parenting attitude. This finding is consistent with Kağıtçıbaşı's (2007) analysis of Turkish culture in terms of two dimensions of parental attitude: relatedness/separateness and hierarchy/equality. Participants traditionally valued relatedness over separateness and hierarchy over equality. Parents tend to see as part of a whole, indicative of relatedness and maintain an authoritative relationship since there were far fewer metaphors that indicate expression of love.

When analyzing mother and father metaphors separately, it is evident that the most commonly used metaphors for "mother" emphasize her sacredness and nurturing qualities, while metaphors for "father" highlight his protective and guidance role. This finding is consistent with our collectivist cultural structure. In collectivist societies, the role of motherhood is further sanctified, and the individual identity is often marginalized (Chuang & Tamis-LeMonda, 2009). Emphasizing the protective role of fathers is in line with the norms of collectivist societies. In collectivist societies, fathers are seen as protectors and disciplinarians, while the mother's role is perceived as providing care and nurture (Dermott, 2008). Viewing the father's presence as a treasure also reflects the cultural reflection of gender roles. These results demonstrate that gender roles and perceptions of parenthood are shaped by cultural and social values.

In summary, the research found that fewer metaphors were produced for the concept of the individual, and restrictive perspectives regarding children and individuals were discovered. The sacredness and nurturing aspects of motherhood were emphasized, while the protective and guidance aspects of fathers were highlighted. When mother and father are considered together, parenting is mainly associated with caring for the child, providing a secure environment, and educating them. The aspect of giving love in parenting was less emphasized.

This study is subject to some limitations. Recommendations for future studies can be made. Firstly, it focused on parents from the Yalova region attending primary schools. Therefore, further research is needed to include parents from diverse school types and levels. Additionally, the majority of participants in this study were members of the Y Generation, aged 35-39 (30.45%), and the X Generation, aged 40-44 (29.31%). To bring a different perspective to the research, future studies could examine the perceptions/attitudes of Z Generation parents in terms of controlling and supportive parental approaches, and highlight the differences between generations. Uncovering these differences can provide new insights into the organization of parental involvement programs. Furthermore, there is a need to investigate the correlation between parents' educational background and their attitudes that support autonomy. In future studies, factors such as the mother's employment status, the amount of time parents spend with their children, parental involvement in home and out-of-home activities, and the number of siblings could be included to gain a

more in-depth understanding of the fulfillment of children's emotional needs. Additionally, future studies should include principals and teachers, as their attitudes towards autonomy-support are equally crucial. It is essential that both educators and parents foster autonomy-supportive attitudes for the optimal development of children.

In light of these findings, several recommendations can be made for practitioners. School leaders need to shift parental implicit thought patterns from a controlling perspective to a supportive approach, ultimately enhancing the effectiveness of parental involvement programs. Therefore, they need to explore parents' perceptions as the first step to designing effective programmes. This study has shown that metaphor analysis methodology could be used as an easy, fast and effective tool to discover parents' perceptions. School leaders can use this methodology. School leaders can also enable parents to critically examine their own perceptions about these concepts through metaphor analysis. Teachers can also design workshop where parents and teachers discover their own assumptions and discuss implications for effective educational outcomes. School leaders and teachers can also inform parents about autonomy-enhancing and controlling perspectives in terms of self-determination theory and enable them to adopt these practices at home.

Ethic

This study was conducted in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments. Informed consent was obtained from all parents.

Author Contributions

All of the authors contributed equally in the article.

Conflict of Interest

The authors declare no conflict of interest in the research.

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The Validity and the Reliability Study of A Cyber Victimization/Bullying Scale For University Students*

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Abstract

The main purpose of this study was to develop a cyber victimization/bullying scale for university students and to test the validity and reliability of the scale. In the first step of this study, the validity and reliability of the cyber victimization scale were tested. The first study sample consisted of 486 university students, 320 (65.8%) female, and 166 (34.2%) male. As a result of the exploratory factor analysis, a 6-factor structure was obtained. The identified subscales for the victimization form were "substitution, verbal teasing, social exclusion, disclosure, cyber victimization with sexual content, anonymous cyber victimization," The total Cronbach's alpha for the victimization form was .81. In the second step, a parallel bully form was created with the same items. The second study sample consisted of 208 university students, 130 (62.5%) female, and 78 (37.5%) male. As a result of the exploratory factor analysis, a similar 6-factor structure was obtained. The identified subscales for the bullying form were "substitution, verbal teasing, social excluding, disclosure, cyberbullying with sexual content, and anonymous cyberbullying." The total Cronbach's alpha for the bullying form was .93. The results of exploratory factor analysis and reliability analysis indicated that the cyber victimization/bullying scale was a qualified scale that could be preferred in scientific studies conducted with university students.

Key Words

Cyber victimization • Cyber bullying • The validity and the reliability

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Introduction

Bullying remains to be a big problem that many people are exposed to today and has serious consequences. This problem can be observed in every environment and all ages. Bullying occurs not only in middle and high schools but also in universities and even in the work life of adults. [Olweus \(1999\)](#) defined bullying as the continuous negative actions of one or more individuals towards another individual. There is a consensus in the literature on the definition of bullying. According to the general definition, the fact that the bully's actions are repetitive, the bully is stronger than the victim, and the bully intentionally harms the victim psychologically and physically constitutes a commonly observed bully profile ([Baldry et al., 1998](#); [Salmivalli 2002](#); [Olweus, 1993](#)).

With the rapid development of communication technologies and it's becoming an indispensable part of life, cyberbullying has emerged as a type of bullying ([Campell, 2005](#)). Bullying, which has been a serious problem in schools for many years, continues to exist by changing its shape. For example, individuals with a bullying profile continue to increase their bullying behaviors in the virtual environment or victims prefer the virtual environment to take revenge on their bullies ([Raskauskas & Stoltz, 2007](#)). In addition, loneliness ([Bilgiz & Peker, 2020](#)), desire for affection and attention ([Dilmaç, 2009](#)), low self-esteem and low social acceptance ([Schoffstall & Cohen, 2011](#)), hostile feelings and psychotic symptoms ([Arıcak, 2009](#)) also predict these bullying behaviors.

Security issues such as identity concealment in the virtual world ([Slonje et al., 2013](#)), privacy loss, and inadequate control ([Erdur-Baker & Kavşut, 2007](#)) allow cyber bullying to increase. According to [Willard \(2005\)](#), cyberbullying is defined as the complete set of actions of bullies who select their victims in the virtual environment and use digital tools to cause harm. [Hinduja & Patchin \(2005\)](#) define cyberbullying as the intentional and repetitive behavior of causing harm to victims using digital tools.

Examples of cyberbullying behavior include kicking someone out of a chat room for no reason, secretly taking and uploading embarrassing photos or videos of someone using a mobile device, creating web pages that demean someone, adding humiliating and threatening messages or images to the victim's web page, and spreading unfounded rumors about the victim ([Erdur-Baker et al., 2008](#); [Hinduja & Patchin, 2010](#)).

Bullying and cyberbullying are complementary behaviors, but they differ in some aspects ([Jose et al., 2012](#)). First, individuals who engage in cyberbullying can do so while hiding their identities. Second, while traditional bullying occurs only in the physical location where it takes place, cyberbullying can be witnessed by people who are not present in the same location, due to the use of technology. Third, due to the anonymity of the online environment, sexual bullying is more common and easily carried out. Finally, while a victim of traditional bullying can escape the situation by leaving the physical environment, there is no safe space in the online world where a cyberbullying victim can escape ([Ayas & Horzum, 2011](#)).

Cyberbullies develop the types of bullying they choose to target individuals to humiliate, scare or exclude. The most common types of attacks include online harassment, peer cyberstalking, dissing, flaming, impersonation, creating fake profiles, outings, trickery, and exclusion ([Willard, 2007](#)).

Bullying can have a mild or severe impact on individuals, but the period during which it has the greatest effect is when the individual's personality is not fully developed (Dilmaç, 2014). Individuals who are subjected to cyberbullying may experience psychological issues such as difficulty in social communication, friendship problems, decreased self-esteem and self-concept, exclusion, helplessness, and fear (Hinduja & Patchin, 2005). Additionally, behaviors such as failure, loneliness, depression, and paranoid thoughts may arise (Aktepe, 2013). Most cyberbullying victims are unable to talk about their experiences with their social circles and tend to withdraw further into themselves (Aktepe, 2013). Mishna et al. (2009) investigated the reasons that prevent children and young people from telling their families about cyberbullying and found that the most important reason is the fear that parents will not allow children to use the internet or phone again to protect children.

Cyber victimization is the situation where individuals or groups are exposed to harmful behaviors technically or relationally, causing material or spiritual damage as a result of these behaviors (Tuğ-Karoğlu & Çilgin, 2020). Arıca et al. (2012) define this situation as "the exposure of an individual or entity, whether physical or legal, to harmful technical or relational behaviors through the use of information and communication technologies, resulting in material or spiritual victimization." Technology is intended to create rich learning environments and introduce children to new ideas, develop new skills, and expand their perspectives (Bailey & Cotlar, 1994).

It is known that as individuals internet usage increases, so does the rate of cyberbullying and victimization (Hinduja & Patchin, 2018; Kowalski & Limber, 2013). The restrictive environment brought about by the pandemic, which emerged especially in late 2019 and became a current outbreak, has increased people's interest in the virtual world and made internet use compulsory. According to a study conducted by Statista on a global scale, there has been a 36% increase in online gaming, a 45% increase in instant messaging app usage, and a 44% increase in social media usage during the pandemic. According to a post-pandemic survey by Microsoft, one in every three people in Turkey engages in cyberbullying, and one in every five is a cyberbullying victim (Microsoft, 2021).

Purpose of the Study

Especially in Turkey, young people aged 16-24 spend the most time on social media (Turkish Statistical Institute [TSI], 2021), which makes them more likely to experience bullying and victimization in the cyber environment. The scales used in studies on cyberbullying were generally developed before the pandemic period and for adolescent samples (Ayas et al., 2015; Çapan et al., 2020; Satan 2006; Kutlu, 2005) with different sub-dimensions and question stems (Arıca et al., 2012; Dölek, 2002; Karabatak & Alanoğlu, 2020; Peker et al., 2015). However, as mentioned above, especially during and after the pandemic period, with the transition of universities to online education; the rates, frequencies, and durations of computer, tablet, and mobile phone use have increased significantly among university students. This situation increased the potential of university students to be both cyber victims and cyber bullies. Because all the relationships that university students established in the physical environment in the past years have now moved to the cyber environment. Developing a new cyberbullying/victimization scale for university students would contribute to understanding the changing face of cyberbullying after the pandemic. For these reasons, the main purpose of this study is to develop a cyberbullying/victimization scale for university students and to test the validity and reliability of the scale.

In this study, a scale development process was conducted. A series of steps were followed to create a scale item pool. First, a literature review was conducted to examine existing scales and scale items related to the cyberbullying. Then, 86 university students were asked about their previous cyberbullying experiences through an open-ended question. Based on both the responses from the students and the relevant literature, 37 items were created. Then, expert opinions were consulted to determine the scale items according to their areas of expertise. Then, the pilot study was conducted to assess the comprehensibility, consistency and validity of the scale items. Feedback from the pilot study guided the revision of the scale items and resulted in the creation of the final scale item pool

Method

Sample and Procedures

This study consists of two separate studies conducted at different times. The first study was the validity and reliability study of a new cyber victimization scale developed for university students. After the results indicated that the validity and the reliability level of the scale were within acceptable limits, the bully form of this scale was created in a second study. The bully form was also tested again on a new sample.

After institutional ethical committee approval from Necmettin Erbakan University (Number: 10.03.2023.100) data were collected from students from different universities. Informed consent was obtained from all participants included in the study. The first study sample consisted of 486 university students, 320 (65.8%) female, and 166 (34.2%) male. The mean age of the participants was 19.61 ± 4.45 . The second study sample consisted of 208 university students, 130 (62.5%) female, and 78 (37.5%) male. The average age of the participants was 21.71 ± 3.33 .

Results

To test the construct validity of the Cyber Victimization Scale for University Students, the principal component analysis method used promax rotation to conduct exploratory factor analysis. The results of Barlett's test of sphericity indicated that the data met the assumption of sphericity ($\chi^2(378) = 5973.68$, $p < .001$). As a result of the analysis, a 6-factor structure with a KMO value of .88, explaining 61.27% of the total variance and having an eigenvalue above 1 was obtained.

Cronbach's alpha internal consistency coefficient was calculated to test the reliability of the scale. Cronbach's alpha internal consistency coefficient was .77 for substitution, .76 for verbal teasing, .82 for social exclusion, .79 for disclosure, .86 for cyber victimization with sexual content, and .73 for anonymous cyber victimization. The Cronbach Alpha internal consistency coefficient for the whole scale was .81. Results of the study indicated that the validity and reliability level of the scale was within acceptable limits. The findings are presented in Table 1.

Table 1

Factor Structure of the Cyber Victimization Scale for University Students

Items	F1	F2	F3	F4	F5	F6
S1	.736					
S2	.720					
S3	.700					
S4	.655					
S5	.622					
S6	.567					
VT1		.728				
VT2		.702				
VT3		.701				
VT4		.608				
VT5		.591				
VT6		.527				
SE1			.766			
SE2			.650			
SE3			.594			
SE4			.529			
D1				.799		
D2				.750		
D3				.616		
D4				.510		
SC1					.770	
SC2					.707	
SC3					.614	
SC4					.520	
A1						.698
A2						.680
A3						.653
A4						.620
Explained Variance	32.189	41.068	47.557	52.617	57.592	61.271
Eigenvalues	9.013	2.486	1.817	1.417	1.225	1.106
Cronbach Alpha	.772	.765	.817	.794	.859	.732

F1: Substitution, F2: Verbal Teasing, F3: Social Exclusion, F4: Disclosure, F5: Cyber Victimization with Sexual Content, F6: Anonymous Cyber Victimization

The correlations between the total score and sub-dimensions of the Cyber Victimization Scale for University Students were examined. The results indicated that there were high and positive correlations between the total score and all sub-scales ($p < .001$). In addition, all sub-dimensions are positively and significantly correlated to each other ($p < .001$). The findings are presented in Table 2.

Table 2

Correlations Between the Subscales of the Cyber Victimization Scale for University Students

Factors	1	2	3	4	5	6	$\bar{X} \pm sd$
1. Substitution	1						1,17±,32
2. Verbal Teasing	,571***	1					1,20±,36
3. Social Exclusion	,514***	,600***	1				1,23±,42
4. Disclosure	,388***	,520***	,475***	1			1,39±,50
5. Cyber Victimization with Sexual Content	,480***	,642***	,595***	,458***	1		1,18±,39
6. Anonymous Cyber Victimization	,507***	,657***	,668***	,544***	,609***	1	1,23±,43
Total	,702***	,831***	,814***	,745***	,792***	,847***	1,23±,32

*** $p < .001$.

To test the construct validity of the Cyber Bullying Scale for University Students, exploratory factor analysis was conducted by principal component analysis method using promax rotation. The results of Barlett's test of sphericity showed that the data met the assumption of sphericity ($\chi^2(378)= 6030.595, p < .001$). As a result of the analysis, a 6-factor structure with a KMO value of .87, explaining 74.087% of the total variance, and an eigenvalue above 1 was obtained.

Cronbach's alpha internal consistency coefficient was calculated to test the reliability of the scale. Cronbach's alpha internal consistency coefficient was .95 for substitution, .90 for verbal teasing, .79 for social excluding, .74 for disclosure, .83 for cyberbullying with sexual content, and .78 for anonymous cyberbullying. The Cronbach Alpha internal consistency coefficient for the whole scale was .93. Results of the study indicated that the validity and reliability level of the scale was within acceptable limits. The findings are presented in Table 3.

Table 3

Factor Structure of the Cyber Bullying Scale for University Students

Items	F1	F2	F3	F4	F5	F6
S1	.898					
S2	.888					
S3	.811					
S4	.779					
S5	.767					
S6	.707					
VT1		.782				
VT2		.760				
VT3		.759				
VT4		.730				
VT5		.660				
VT6		.626				
SE1			.760			
SE2			.691			
SE3			.649			
SE4			.543			
D1				.848		
D2				.682		
D3				.622		
D4				.613		
SC1					.864	
SC2					.864	
SC3					.812	
SC4					.585	
A1						.688
A2						.621
A3						.589
A4						.453
Explained Variance	44.595	9.086	7.141	4.882	4.496	3.888
Eigenvalues	12.487	2.544	2.000	1.367	1.259	1.089
Cronbach Alpha	.950	.897	.793	.737	.832	.784

F1: Substitution, F2: Verbal Teasing, F3: Social Excluding, F4: Disclosure, F5: Cyberbullying with Sexual Content, F6: Anonymous Cyberbullying

The correlations between the total score and sub-dimensions of the Cyberbullying Scale for University Students were analyzed. The results indicated that there were high and positive correlations between the total score and all sub-scales ($p < .001$). In addition, all scale sub-dimensions were positively and significantly correlated with each other ($p < .001$). The findings are presented in Table 4.

Table 4

Correlations between the Subscales of the Cyber Bullying Scale for University Students

Factors	1	2	3	4	5	6	$\bar{X} \pm sd$
1. Substitution	1						1,06±,29
2. Verbal Teasing	,692***	1					1,21±,38
3. Social Excluding	,641***	,642***	1				1,23±,49
4. Disclosure	,822***	,716***	,580***	1			1,05±,24
5. Cyber Bullying with Sexual Content	,502***	,537***	,390***	,551***	1		1,07±,28
6. Anonymous Cyber Bullying	,680***	,585***	,495***	,607***	,333***	1	1,13±,31
Total	,879***	,869***	,820***	,856***	,656***	,753***	1,12±,27

 $p < .001$.

Discussion

With the developments in communication technologies, cyberbullying is also diversifying and increasing. The literature shows that the rates of being exposed to cyberbullying have increased due to the widespread use of communication technologies, especially among university students (Beran et al., 2012; Faucher et al., 2014). Especially with the new type of coronavirus (COVID-19), which emerged in 2019 and is still a current epidemic, the restricted environment brought by the pandemic process has made it necessary for university students to move many activities that started face-to-face such as education and entertainment to the virtual environment. This may have increased the potential for the emergence of different types of cyberbullying. Therefore, the scales developed to identify and solve problems related to cyberbullying should better reflect the problems experienced by individuals in this transition period. However, although there are many studies on cyberbullying and victimization in the literature (Arıcağ et al, 2012; Arslan et al., 2020; Beran & Li, 2007; Çetin et al., 2011; Hinduja & Patchin, 2008; Karabatak & Alaoğlu, 2020; Kayman, 2017; Küçük, 2016; Kowalski & Limber, 2007; Özbey, 2019; Topcu & Erdur-Baker, 2010; Ybarra & Mitchell, 2004), the number of scales developed to examine cyberbullying and victimization experiences of university students is much smaller (Hinduja & Patchin, 2015). Therefore, this study aimed to develop a new cyberbullying/victimization scale for university students and to test the validity and reliability of the scale.

In the first step of this study, a cyber victimization form was developed. The results of the factor analysis identified six subscales for the cyber victimization form as "substitution, verbal teasing, social exclusion, disclosure, cyber victimization with sexual content, and anonymous cyber victimization." Since the validity and reliability results of the scale indicated that the scale met the criteria for scientific studies, the factor structure of the bully form of the scale was examined in a different sample as a second step. Similarly, the subscales identified for the

cyberbullying form were "substitution, verbal teasing, social exclusion, disclosure, cyberbullying with sexual content, and anonymous cyberbullying.

The description of the dimensions was as follows: *substitution* refers to the use of methods such as fake emails or websites to steal or impersonate internet users' accounts or to be exposed to such methods. *Verbal teasing* refers to verbal harassment or attacks aimed at disturbing or targeting another person in communication environments on the internet. *Social exclusion* refers to the conscious exclusion or isolation of a person through groups or platforms on the internet. *Disclosure* refers to the unauthorized and malicious sharing or publication of personal or private information about a person on the Internet. *Cyber victimization with sexual content* refers to the situation where a person is exposed to sexual harassment or attacks on the internet and *anonymous cyber victimization* refers to the situation where a person is exposed to anonymous harassment, threats, or attacks on the internet while their identity is kept hidden.

The adequacy of the sample is determined by the Kaiser-Meyer-Olkin (KMO) coefficient. The KMO coefficient should be at least 0.50 (Field, 2009). In this study, KMO values were found to be .88 and .87, respectively. This result showed that both samples were adequate for exploratory factor analysis. Bartlett's Test of Sphericity (BTS) is used for the significance of correlation coefficients between variables. BTS should be $p < 0.05$ (Alpar, 2018; Çapık, 2014; Çelik, & Yılmaz, 2016; DeVellis, 2017; Garson, 2013; Heale & Twycross, 2015; Özdamar, 2017). In this study, BTS was $p < 0.001$ for both forms. The results indicated that this criterion was met for both forms.

The cyber-victimization scale had a six-factor structure explaining 61.27 % of the total variance. The factor loadings of the items ranged between .51 and .79. Cyberbullying scale also had a six-factor structure explaining 74.08 % of the total variance. The factor loadings of the items ranged between .45 and .89. A total variance explained between 40-60 % is sufficient for general acceptance, and factor loadings above 50% and factor loadings above .30 indicate a strong construct validity (DeVellis, 2017). In addition, a high variance explained is an indication that the related concept or construct is measured well (Büyüköztürk, 2007). The results of the study indicated that both the victimization form and the bullying form of the scale met the validity criteria.

Cronbach's alpha coefficient is a reliability value that shows whether the scale items are related to the characteristic to be measured. A value between 0.60-0.80 indicates that the scale is highly reliable, and a value between 0.80-1.00 indicates that the scale is highly reliable (Alpar, 2018; Çakmur, 2012; Çapık, 2014; Çelik & Yılmaz, 2016; Field, 2009; Heale & Twycross, 2015; Özdamar, 2017; Tavşancıl, 2010). In this study, the Cronbach alpha values of the sub-dimensions of the cyber victimization form were between .73 and .86, and the Cronbach alpha values of the sub-dimensions of the cyberbullying form were between .74 and .95. In addition, the Cronbach alpha value of cyber victimization and cyberbullying was .81, and .93 respectively. These results indicated that the reliability of both forms was at an acceptable level.

The results indicated that there were high and positive correlations between the total score of cyber victimization and all subscales. Moreover, all subscales of cyber victimization were positively and significantly correlated with each other. In parallel with these findings, the results also indicated that there were high and positive correlations between cyberbullying total score and all subscales. Moreover, all subscales of cyberbullying were positively and

significantly correlated with each other. Both the high correlations between total scores and sub-dimensions and the parallel results for both forms indicated the consistency of the scales. In addition, the results indicated that the scales could be used with sub-dimensions as well as only total scores.

As a result, findings of both exploratory factor analysis, reliability analysis, and Pearson correlation analysis indicated that the Cyber Victimization and Cyber Bullying scales are valid and reliable measurement tools that can be used to determine the cyberbullying and victimization levels of university students.

Based on the results of this study, we suggest that the cyberbullying and cyber victimization scale can be used in adult samples. Furthermore, it is important to examine the variables that may be related to bullying and victimization (level of self-confidence, perception of social support, emotional intelligence, and organizational justice) in relation to the scale. This will help us better understand the prevalence and impact of cyberbullying and cyber victimization among adults.

Ethic

This study was conducted in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments.

Author Contributions

All of the authors contributed equally in the article.

Conflict of Interest

The authors declare no conflict of interest in the research.

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High School Teachers' Technological Pedagogical Content Knowledge and Self-efficacy Perceptions^{*}

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Abstract

The aim of this research is to determine the correlation between high school teachers' technological pedagogical content knowledge levels and teacher self-efficacy perceptions. In the 2018-2019 academic year, 386 teachers working in high schools in the city center of Karaman, Turkey, participated in the research conducted in the correlational survey model. The data of the study were collected with the personal information form, the technological pedagogical content knowledge scale and the teacher self-efficacy scale. In the analysis of the data, arithmetic mean, standard deviation, Pearson correlation technique were used. When the research findings are examined; it was concluded that teachers' technological pedagogical content knowledge and their self-efficacy perceptions are at high level. At the same time, there was a positive and medium-level correlation between teachers' technological pedagogical content knowledge and their perception of self-efficacy. The research findings were discussed in line with the related literature and some suggestions were made.

Key Words

Instructional technology • Self-efficacy • Technological pedagogical content knowledge • TPACK

* A part of the study was presented orally at 10th International Congress on Curriculum and Instruction.

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Introduction

The progress in the field of technology is accelerating day by day and this situation causes technology products to take more place in our lives. An important part of the place that technology occupies in our lives is the field of education. Curriculum and learning-teaching processes are reviewed in the context of developing technologies. The innovations that technological tools bring to the teaching environment also affect students and teachers, who are the components of this environment. With the integration of technology into education, students' expectations for the teaching and learning process, teachers' approach to materials and the form of learning and teaching activities are changing. This situation causes a change in the skills that teachers should have. In order to create effective technological environments in lessons, teachers are expected to have appropriate knowledge, beliefs and skills about using technology in teaching (Ruggiero & Mong, 2015). Because teachers, who design the teaching environment and teaching activities with the skills they have, have an important responsibility as the people who ensure that the teaching activities are carried out effectively. They are expected to use their theoretical knowledge and past experience effectively while fulfilling this responsibility. In the first studies on the knowledge that teachers should have, teachers were expected to have content knowledge and pedagogical knowledge, but then attention began to be focused on pedagogical content knowledge, which is the combination of these two kind of knowledge (Shulman, 1986; Veal & MaKinster, 1999). In recent years, a new one has been added to the knowledge areas that teachers should have: Technological pedagogical or briefly technopedagogical content knowledge (TPACK) (Sağlam-Kaya, 2019).

Integration of technology with teaching is a continuous and dynamic, but also quite difficult and complex process (Binghimlas, 2009). Studies indicate that successful results cannot be achieved if the technology integration process is not well conceptualized and not understood by teachers (Ertmer, 2005; Hew & Brush, 2007). In this context, a conceptual framework is needed for teachers for using technology effectively in their teaching and learning activities. In the related literature, it is seen that there are different models that will enable learning-teaching processes to be more effective and efficient together with information and communication technologies (Kurt, 2013). The TPACK model briefly mentioned above is one of them.

Technological Pedagogical Content Knowledge

The TPACK Model is built on the theoretical framework of Pedagogical Content Knowledge (PCK) defined by Shulman (1986). According to Shulman, the way of effective teaching passes through the combination of pedagogy and content. Technologies used in the educational environment have changed the climate of the classroom environment (Mishra & Koehler, 2006); technology has arised as a new part of teacher skills and the need to define what it means to use other types of knowledge effectively with technology has begun to come to the fore. Mishra and Koehler (2006) elucidate TPACK, which is the combination of these types of knowledge, as follows: TPACK is defined as the fundamentals of effective teaching through technology and includes pedagogical techniques that enable the constructive use of technology to teach subjects, and the knowledge of situations that make the subject easy or difficult to learn. TPACK also includes knowledge of how technology can help organize some problems faced by students, students' existent knowledge and epistemological theories, how technologies can be used to create

new knowledge on existent knowledge, and to create new theories or strengthen old theories (Er & Sağlam-Kaya, 2017) .

TPACK has three sources, as pedagogical knowledge, technological knowledge and content knowledge, and focuses on the coactions between that resources (Abbitt, 2011; Mishra & Koehler, 2006; Schmidt et al., 2009). In this direction, TPAB presents three areas, namely theoretical framework technology knowledge, pedagogical knowledge and content knowledge, and their intersections: technological pedagogical knowledge, technological content knowledge, pedagogical content knowledge and technological pedagogical content knowledge (Koehler & Mishra, 2009; Mishra & Koehler, 2006). However, TPACK does not just focus on what teachers need to know, but is also a useful frame that teachers can use when considering how to evolve this knowledge (Schmidt et al., 2009).

According to the TPACK model, which is seen as one of the main types of knowledge that teachers should have in the technology integration period, it is expected that educational technologies will be used appropriately in the teaching and learning process (Harris et al., 2009; Voogt & McKenney, 2017). However, another important issue that needs to be mentioned at this point is teachers' self-efficacy beliefs. According to Pajares (1992), it is possible to predict what knowledge and skills teachers have and what they can do in the classroom by determining their self-efficacy. A teacher with high self-efficacy trusts her knowledge and skills and tends to reflect these in classroom practices.

Teacher Self-efficacy

Self-efficacy belief first emerged on the basis of Bandura's (1977) Social Cognitive Learning Theory. Bandura, emphasized that self-efficacy belief forms the basis of social cognitive theory and that this belief is individuals' individual perceptions of how well they can do the activities essential to cope with any possible case; he defined the concept of self-efficacy as the personal evaluation of what an individual can do when faced with certain tasks. In other words, self-efficacy is a person's belief in organizing and applying the skills necessary to achieve desired results (Skaalvik & Skaalvik, 2010). According to Bandura (1977), self-efficacy is necessary in order to organize and exhibit a behavior on which belief about abilities is based and which is necessary to achieve goals.

Consistent with belief in self-efficacy, Tschannen-Moran and Woolfolk-Hoy (2001) identify teacher self-efficacy as teachers' judgments of their own abilities to achieve expected outcomes for all students' engagement and learning, including those with difficult or low motivation. Considering the knowledge, attitudes and skills required by the teaching profession, it is observed that the concept of self-efficacy is an important variable that should be emphasized especially for the profession of teaching. Reflections of self-efficacy beliefs can be experienced during teachers' classroom practices. Because teachers' beliefs also have the feature of being the determinant of their practices in their lessons (Pajares, 1992; Wilkins, 2008). Teachers with a strong sense of efficacy tend to have a high level of planning and organization, be open to new opinions, be ungrudging in trying new ways to resolve student demands, and be determined in teaching, while teachers with lower self-efficacy tend to avoid them (Woolfolk-Hoy, 2004). In addition, teachers with strong self-efficacy beliefs may prefer to use several teaching strategies and techniques by adopting a learner-centered approach; It has been stated that teachers with low self-efficacy beliefs tend to conduct more teacher-centered lessons (Milner & Woolfolk-Hoy, 2003). In this case, it is expected that every

teacher should have a high perception of teacher self-efficacy in order to reveal their competencies in educational processes.

Rationale and Purpose of the Study

In the 21st century we live in, to be successful in both education and working life of individuals; there are some skills that they should have in order to carry out their daily and social lives easily. These skills, gathered under the headings of life and career skills, learning and renewal skills, information, media and technology skills, are called 21st century skills in the literature (Trilling & Fadel, 2009). It is seen that among the mentioned skills are information literacy, media literacy, information and communication technologies literacy. Similarly; “digital competence” is included in the key competences of the Turkish Qualifications Framework (TYÇ) prepared by the Vocational Qualifications Authority (MYK) (TYÇ, 2023). In this direction, the concept of digital competence is also included in our curriculum (Ministry of Education [MOE], 2018). For today's students, who will be the adults and employees of the future, to be equipped with these skills and at the same time; In terms of the effectiveness of education and training in schools, it is of great importance to train teachers who have the knowledge and skills to use the possibilities of technology. Successful use of technology in educational processes by pre-service teachers depends on knowing to what extent they have the competencies for this use and determining the variables that affect this situation.

When the literature is examined, it is seen that there are many independent studies on self-efficacy (Kasalak & Dağyar, 2020; Liu et al., 2020; Sokhom et al., Sorakrich & Ravinder, 2023; Wray et al., 2022) and technopedagogical content knowledge (Koyuncuoğlu, 2021; Mutiani et al., 2021; Schmid et al., 2021; Tseng et al., 2022; Yeh et al., 2021). However, a limited number of studies have been found that reveal the relationship between TPACK and teacher self-efficacy. In line with these determinations, the determination of teachers' TPACK levels and teacher self-efficacy levels in terms of different variables; It is also aimed to reveal the relationship between these two variables. The following questions were sought to be answered in the research:

1. What are the teachers' levels of technological pedagogical content knowledge?
2. What are the teachers' self-efficacy perception levels?
3. Is there a significant correlation between teachers' technological pedagogical content knowledge levels and self-efficacy perception levels?

Method

Research Design

The design of the research is the correlational survey model, one of the quantitative research designs. Correlational survey models are research models that intend to determine the presence and severity of co-change between two or more variables (Karasar, 2009). Since the main purpose of this study is to determine the correlation between teachers' self-efficacy perception levels and their technological pedagogical content knowledge levels, the research design was determined as a correlational survey model.

Research Sample

The population of the research consists of high school teachers working in the city center of Karaman. The sample of the study was determined by proportional stratified sampling method. In the proportional stratified sample selection, a sample proportional to the place of that stratum in the population is selected from each stratum. For the sample to be representative, the sampling rate of the various groups in the sample must be the same as in the population. Proportional stratified sampling helps to achieve this (De Vaus, 2013). In this research, Anatolian High School, Science High School, Social Sciences High School, Vocational High School, Fine Arts High School, Imam Hatip High School, which are different types of high schools, were determined as strata. Considering the number of teachers working in each school type, the number of participants to be selected from the strata was determined. As a result of these determinations, the distribution of 386 teachers in the study group according to various demographic characteristics is given in Table 1.

Table 1

Distribution of the Participants by Demographic Characteristics

Variable	Category						
Gender	Female			Male			
	175			211			
Age	25 and below	26-30	31-35	36-40	41-45	46 and above	
	18	68	63	89	73	75	
Type of school	Anatolian High School	Science High School	Social Sciences High School	Vocational High School	Fine Arts High School	Imam Hatip High School	
	128	26	24	143	19	46	
Professional seniority	0-5 year	6-10 year	11-15 year	16-20 year	21-25 year	26 years and above	
	60	93	49	77	60	47	
Education level	Undergraduate			Postgraduate			
	303			83			

As can be seen in table 1, 175 female and 211 male teachers participated in the research. 18 of these teachers are 25 years old and below, 68 are 26-30 years old, 63 are 31-35 years old, 89 are 36-40 years old, 73 are 41-45 years old, 75 are 46 age and over. 128 of the teachers participating in the research work in Anatolian High School, 26 in Science High School, 24 in Social Sciences High School, 143 in Vocational High School, 19 in Fine Arts High School, 46 in Imam Hatip High School. 60 of the participants have 0-5 years, 93 of the participants have 6-10 years, 49 of the participants have 11-15 years, 77 of the participants have 16-20 years, 60 of the participants have 21-25 years, 47 of the participants have 26 years or more professional seniority. Among the participants of the research, 303 teachers received undergraduate education and 83 teachers received graduate education.

Research Instruments and Processes

"Personal Information Form" which was prepared by the researchers, "Technological Pedagogical Content Knowledge Scale" and "Teacher Self-efficacy Scale" were used to get data in the study, which was carried out in correlational survey model. The personal information form created by the researchers includes information on gender, age, school type, professional seniority, and education level. The "Technological Pedagogical Content Knowledge Scale" created by Horzum et al. (2014) was used to determine the technological pedagogical content knowledge levels of teachers and teacher candidates. The scale is of a five-point Likert type and has a rating of "(5) completely agree, (4) agree, (3) undecided, (2) disagree, and (1) strongly disagree". The reliability coefficient of the scale is 0.98. In scale; there are 51 items consisting of 7 sub-dimensions, 8 items of content knowledge, 7 items of pedagogical knowledge, 6 items of technological knowledge, 6 items of technological content knowledge, 8 items of pedagogical content knowledge, 8 items of technological pedagogical knowledge and 8 items of technological pedagogical content knowledge. The reliability coefficient of the scale was recalculated based on the data obtained from the research. The Cronbach α coefficient was found to be 0.912 for technological knowledge, 0.922 for pedagogical knowledge, 0.963 for content knowledge, 0.925 for technological content knowledge, 0.948 for pedagogical content knowledge, 0.945 for technological pedagogical knowledge, 0.937 for technological pedagogical content knowledge, and 0.984 for the whole scale.

The "Teacher Self-efficacy Scale" created by Senemoğlu (2006) was used to get data on the teachers' self-efficacy perception levels in the study. The scale, which consists of 32 positive items, is a five-point Likert type. Rating of the scale is; inadequate (1), poor (2), moderate (3), good (4) and very good (5). The scores that can be obtained from the scale are between 32 and 160, and the reliability coefficient of the scale is 0.96. The reliability coefficient of the scale was recalculated over the data obtained in the study and was found Cronbach $\alpha = 0.970$. A Cronbach α coefficient above 0.80 is interpreted as having high reliability of the scale (Alpar, 2013). Based on this, it can be said that the scales used in the research are appropriate in terms of reliability.

Data Analysis

The analysis of the data collected from the scales was made through the statistical package program. Descriptive statistical techniques such as arithmetic mean and standard deviation were used to determine the technological pedagogical content knowledge and teaching self-efficacy perception levels of the participants. The Pearson product-moment correlation coefficient was examined to determine the correlation and direction between the technological pedagogical content knowledge and teacher self-efficacy perceptions of the participants. The level of significance in the interpretation of the findings of the study was taken as $p=0.05$.

Results

Teachers' Technological Pedagogical Content Knowledge Levels

The first sub-problem of the research is "What is the teachers' level of technological pedagogical content knowledge?" expressed as. The analysis results for this problem are given in Table 2.

Table 2

Descriptive Statistics Results of Teachers' Technological Pedagogical Content Knowledge Levels

	n	\bar{x}	SD	Min	Max
Technological knowledge	386	23.09	4.683	7	30
Pedagogical knowledge	386	27.95	5.404	8	35
Content knowledge	386	33.25	6.700	8	40
Technological content knowledge	386	23.71	4.830	7	30
Pedagogical content knowledge	386	32.67	6.521	8	40
Technological pedagogical knowledge	386	31.62	6.247	8	40
Technological pedagogical content knowledge	386	31.13	6.231	9	40
Technological pedagogical content knowledge (Total)	386	203.42	35.873	64	255

As can be seen in Table 2, the mean score of teachers' technological pedagogical content knowledge levels was found to be $\bar{x}=203.42$. Accordingly, it can be said that teachers' technological pedagogical content knowledge scores are at a high level. When the mean scores of the teachers from the technological pedagogical content knowledge scale are examined in point of the dimensions of the scale; it was seen that teachers got high scores in all dimensions of the scale.

Teachers' Self-efficacy Perception Levels

The second sub-problem of the study is "What are the teachers' self-efficacy perception levels?" expressed as. The analysis results for this problem are given in Table 3.

Table 3

Descriptive Statistics Results of Teachers' Self-Efficacy Perception Levels

	n	\bar{x}	SD	Min	Max
Self-Confidence	386	127.32	20.954	32	160

As can be seen in Table 3, the mean score of teachers' self-efficacy perception level was found as $\bar{x}=127.32$. Accordingly, it can be stated that teachers' self-efficacy perceptions are at a high level.

The Correlation between Teachers' Technological Pedagogical Content Knowledge Levels and Self-efficacy Perception Levels

The third sub-problem of the research is "Is there a significant correlation between teachers' technological pedagogical content knowledge levels and their self-efficacy perception levels?" expressed as. The analysis results related to this sub-problem are given in Table 4.

Table 4

The Correlation Between Teachers' Technological Pedagogical Content Knowledge and Self-Efficacy Perception Levels

		Self- efficacy	Technological knowledge
Self- efficacy	r	1	0.290**
	p		0.000
	N	386	386
Technological knowledge	r	.290**	1
	p	0.000	
	N	386	386
		Self- efficacy	Pedagogical knowledge
Self- efficacy	r	1	0.397**
	p		0.000
	N	386	386
Pedagogical knowledge	r	.397**	1
	p	0.000	
	N	386	386
		Self- efficacy	Content knowledge
Self- efficacy	r	1	0,319**
	p		0.000
	N	386	386
Content knowledge	r	0.319**	1
	p	0.000	
	N	386	386
		Self- efficacy	Technological content knowledge
Self- efficacy	r	1	0.332**
	p		0.000
	N	386	386
Technological content knowledge	r	0.332**	1
	p	0.000	
	N	386	386
		Self- efficacy	Pedagogical content knowledge
Self- efficacy	r	1	0.337**
	p		0.000
	N	386	386
Pedagogical content knowledge	r	0.337**	1
	p	0.000	
	N	386	386

		Self- efficacy	Technological pedagogical knowledge
Self- efficacy	r	1	0.294**
	p		0.000
	N	386	386
Technological pedagogical knowledge	r	0.294**	1
	p	0.000	
	N	386	386
		Self- efficacy	Technological pedagogical content knowledge
Self- efficacy	r	1	0.317**
	p		0.000
	N	386	386
Technological pedagogical content knowledge	r	0.317**	1
	p	0.000	
	N	386	386
		Self- efficacy	Technological pedagogical content knowledge (total)
Self- efficacy	r	1	0.369**
	p		0.000
	N	386	386
Technological pedagogical content knowledge (total)	r	0.369**	1
	p	0.000	
	N	386	386

** $p < .001$

When the Pearson Correlation results in Table 4 are examined, it is observed that there is a positive and medium-level significant correlation between the teachers' self-efficacy perception levels and their technological pedagogical content knowledge levels ($r=0.365$, $p \leq 0.05$). In addition, the correlation between teachers' self-efficacy levels and the dimensions of technological pedagogical content knowledge was also examined in the study. According to the findings, there is a positive and low correlation between teachers' self-efficacy levels and technology knowledge ($r=0.291$, $p \leq 0.05$), there is a positive and medium-level correlation between teachers' self-efficacy levels and pedagogical knowledge ($r=0.391$, $p \leq 0.05$), there is a positive and medium-level correlation between teachers' self-efficacy levels and content knowledge ($r=0.315$, $p \leq 0.05$), there is a positive and medium-level correlation between teachers' self-efficacy levels and technological content knowledge ($r=0.327$, $p \leq 0.05$), there is a positive and medium-level correlation between teachers' self-efficacy levels and pedagogical content knowledge ($r=0.332$, $p \leq 0.05$), there is a positive and low correlation between teachers' self-efficacy levels and technological pedagogical knowledge ($r=0.288$, $p \leq 0.05$), there is a positive and medium-level correlation between teachers' self-efficacy levels and technological pedagogical content knowledge ($r=0.314$, $p \leq 0.05$).

Discussion, Conclusion & Suggestions

Discussion and Conclusion

When the research findings were examined, it was observed that the technological pedagogical content knowledge of the teachers participating in the study was at high level. When the mean scores of the teachers from the technological pedagogical content knowledge scale are examined in terms of the dimensions of the scale; teachers got scores at high level in all dimensions of the scale. Today, technology, which we encounter in all areas of life, that we sometimes have to use it willingly, sometimes we have to; it has become a phenomenon that is easy to reach, learn and get support when necessary. This convenience also covers the field of education. Today, using technology in the learning and teaching process has become much more accessible thanks to the variety of software and the internet. In this case, it is expected that teachers' TPACK levels are high. When the results of the research conducted by [Sağlam-Kaya \(2019\)](#) were examined, it was observed that the TPACK scores of the majority of the pre-service teachers were moderate and high. In the research made by [Demirezen and Keleş \(2020\)](#), it was found that teachers' proficiency in the dimensions of technology knowledge, pedagogical knowledge, content knowledge, pedagogical content knowledge, technological content knowledge, technological pedagogical knowledge and technological pedagogical content knowledge is at a high level; technology domain knowledge was found to be weaker. Due to its rapidly developing and changing nature, technology is integrated effectively into educational processes. Many countries make high-budget investments to integrate technology into education ([Belland, 2009](#)). There are many studies focusing on technology integration in schools and examining the use of different technologies in teaching. These studies show that technology accompanying appropriate pedagogy positively affects learning and increases achievement ([Albaaly & Higgins, 2012](#); [Erbaş et al., 2015](#); [Malik & Shanwal, 2015](#)).

According to another finding of the study, it was observed that the self-efficacy perceptions of the teachers participating in the study were at high level. In the era we live in, the opportunities available to teachers are quite high. It is now possible for teachers to develop themselves, to learn and use different learning and teaching strategies, methods and techniques, to reach a wide variety of materials, even to develop their own materials, and to benefit from different measurement and evaluation techniques, especially through technology. It is thought that all these opportunities may affect teachers' self-efficacy perceptions positively. Similar to the results of this study; the results of the research made by [Birişçi and Kul \(2019\)](#) showed that pre-service teachers had high level of technology integration self-efficacy beliefs and also when the results of the research conducted by [Sağlam-Kaya \(2019\)](#) were examined, it was seen that the teacher candidates' perceptions of teacher self-efficacy were high.

When the research findings were examined, it was seen that there was a positive and medium-level significant correlation between the teachers' technological pedagogical content knowledge levels and their self-efficacy perception levels. It can be said that teachers with high TPACK level have a good command of the theoretical structure of the field they teach, know how to teach it, and can benefit from technology while teaching. Therefore, it is expected that these teachers have high self-efficacy perceptions. At the end of the study made by [Abbit \(2011\)](#), it was seen that TPACK affected teacher candidates' self-efficacy in the context of technology integration. In their study, [Ekici et al. \(2012\)](#) revealed that individuals are more willing and successful in implementing and designing

computer-related activities in parallel with the increase in their self-efficacy perceptions. [Akgün \(2013\)](#) revealed that there is a positive and moderate correlation between pre-service teachers' web pedagogical content knowledge and teacher self-efficacy perceptions. In the study made by [Spazak \(2013\)](#), it was seen that there were significant correlations between the self-efficacy perception levels of teacher candidates and their AB, PC, TB, PCK, TPB, TAB, TPACK levels. [Lee and Lee \(2014\)](#) revealed that teachers' self-efficacy belief is one of the major factors in technology integration and their use of technology in the classroom. The results of the studies of [Keser et al. \(2015\)](#) showed that there is a high positive correlation between teacher candidates' technopedagogical education competency and self-efficacy scores. [Liang et al. \(2017\)](#) found in their study that there is a positive correlation between teachers' TPACK and their teaching self-efficacy. Similarly, the results of the research conducted by [Birişçi and Kul \(2019\)](#) found out that there was a high level of positive correlation between the technology integration self-efficacy beliefs of teacher candidates and their technopedagogical education competencies. When the results of the research conducted by [Sağlam-Kaya \(2019\)](#) were examined, it was seen that TPACK competencies of teacher candidates were a significant forecaster of teacher self-efficacy. Unlike these results, in the research made by [Açıkgül and Aslaner \(2019\)](#), it was determined that there was no significant correlation between TPACK efficacy and self-efficacy. Research results are similar with the results of this study in the sense that teacher self-efficacy has the potential to affect technology integration and TPACK has the potential to affect teacher self-efficacy perception. According to the epistemological connection between belief and knowledge, knowledge requires or leads to both situational and general beliefs ([Lemos, 2007](#); [Rose & Schaffer, 2013](#)).

When the relationship between teachers' self-efficacy levels and technological pedagogical content knowledge dimensions was examined in the study, a positive and medium-level significant correlation was seen between teachers' self-efficacy levels and technology knowledge, and between self-efficacy levels and technological pedagogical knowledge. This is explainable by the fact that the teacher self-efficacy scale used in the study was created in 2006 and did not include items related to the use of technology in instruction. This can be seen as a limitation of the research. While there were different scale alternatives at the time of the study, the current scale was preferred because it contains few items. As seen in the scale information, the TPACK scale is a multidimensional scale consisting of many items. In order not to cause boredom in the participants of the study, a one-dimensional scale containing relatively few items was preferred.

Suggestions

Ability of using technology in teaching is an important feature that today's teachers should have. Considering today's rapidly changing conditions and the fact that new technologies are emerging day by day; The risk that teacher training undergraduate programs may be insufficient in educating pre-service teachers equipped with these skills and preparing them for this dimension of the profession should be taken into consideration. For this, it is considered important to give more weight to courses such as information and communication technologies, instructional technologies and material design in teacher training programs, that is, in pre-service education, to carry out these courses in practice, and to update the course outcome and content according to changing conditions.

Thanks to technology integration, teaching performance and student success, which is seen as the most concrete output of teacher performance, can be improved. However, in most teacher training programs, it is observed that pedagogical knowledge, content knowledge and technology knowledge are taught independently of each other. Accordingly, teachers who are employed in the profession may also have difficulties in integrating these knowledge areas. Therefore, it is thought that developing technopedagogical skills together with content knowledge will provide an advantage to practitioners, namely teachers, in using these knowledge and skills. In this direction, considering TPACK as a whole and developing it theoretically and practically; in teacher training programs, it may be suggested to include guidelines based on the TPACK model in the contents of various courses.

Technology is not a fixed phenomenon, it continues to develop, change, affect and be affected by different systems. In line with "lifelong learning", which is one of the important concepts of the 21st century, teachers are expected to develop, adapt to change, and even create development and change after they are employed. An important way of doing this is to support their professional development with in-service training and to ensure that they keep up with the requirements of the age they live in. However, a number of factors in the form of prejudices, attitudes or experiences towards the use of technology in teaching can have a negative or positive effect on the use of technology by teachers and teacher candidates. It is valuable to enable them to approach the use of technology in education positively, to offer the necessary opportunities to increase their motivation in this field and to gain experience.

The increase in studies on TPACK is important in point of both discovering the current case of teachers in this field and raising awareness about TPACK. It is necessary to enlarge the TPACK literature to determine the extent to which the teachers find themselves competent in TPACK and to plan and conduct studies on the areas of need. Many studies, including this one, provide strong evidence that teachers' self-efficacy beliefs are one of the major factors in their use of technology in the class. Therefore, investigating the correlation between these two factors in different environments and situations, on different groups, can provide important data for teacher education.

In addition to these, as mentioned before, a scale developed in 2006 was used to determine teachers' self-efficacy perceptions in the study. In addition to being a very suitable measurement tool in point of reliability and validity, the mentioned scale does not contain items related to the dimension of technology use in teaching. Self-efficacy scales including the technology factor can be used or new ones can be developed for future studies.

Ethic

We declare that the research was conducted in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

Author Contributions

This study was produced from the study titled "Examination of the Relationship Between Secondary Education Teachers' Technological Pedagogical Content Knowledge Levels and Teachers' Self-Efficacy Perceptions" which was accepted as a master's thesis at Karamanoğlu Mehmetbey University, Institute of Science.

Conflict of Interest

The authors declare that they have no conflict of interest.

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